

DECEMBER 1955 26

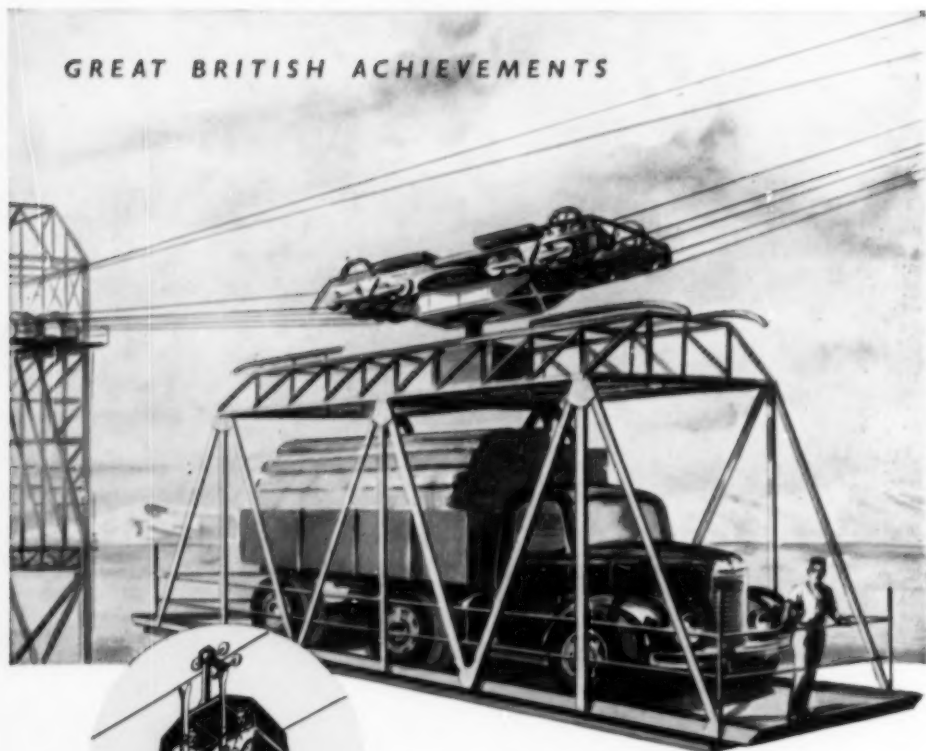
# Business

How to Build  
Your Firm's  
**PRESTIGE**

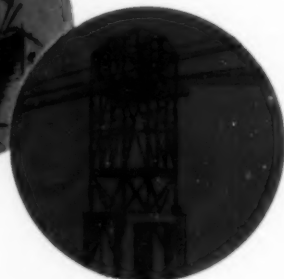
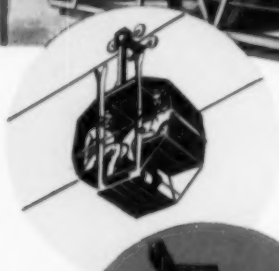
*See Page 75*



GREAT BRITISH ACHIEVEMENTS



**Overhead Cable  
and Ropeway Engineering**



**RENFREW FOUNDRIES  
LIMITED**

**SUPPLIERS OF ALUMINIUM CASTINGS**

Sole Concessionaires in the United Kingdom  
for the Doehler-Jarvis System of Pressure Die Casting

HILLINGTON • GLASGOW • S.W.2 • Telephone HALFWAY 3391





A departmental link-up by Reliance Telephone Systems brings your staff into oral control as easily as if they shared your room. With Reliance you can from your chair settle a simple query, have a detailed discussion, or hold a conference.

Almost effortless 'finger touch' operates the required switch or switches on your Master Station, ensuring instant priority intercommunication with your organization. It's as simple as that!

Let us send you full particulars of this completely automatic system available on modest rental—a proven contributory factor to modern efficiency.



Write to-day  
for illustrated  
leaflet B2/29.

## The RELIANCE TELEPHONE CO Ltd

(A Subsidiary of the General Electric Company Limited)

43-47 PARKER STREET, KINGSWAY, LONDON, W.C.2  
Telephone: Chancery 5341 (P.B.X.) Branches throughout the United Kingdom

INTERNAL TELEPHONES - STAFF LOCATION - MUSIC FOR INDUSTRY

DECEMBER, 1955

## Business

THE JOURNAL OF MANAGEMENT IN INDUSTRY

### CONTENTS for DECEMBER, 1955

#### PROSPECT economic supplement

Month's Highlights and Trends	49
Salient Figures of the Month	51
Home Market Regional Surveys	53
State of the Nation: 18 key charts	54
Export Market Survey	59

COMMENT	65
PEOPLE, PRODUCTS AND PLACES	67
TALKING POINTS	73
MANAGEMENT AT WORK	89

#### POLICY

##### HOW TO BUILD PRESTIGE FOR YOUR FIRM 75

*Case histories describing the techniques and methods of successful press officers and public relations consultants*

The Editor

##### MAINTAINING GOODWILL OF EMPLOYEES 80

*As a follow-up to the leading article, this shows the benefits of giving workers information concerning the company's operations*

Keith Underwood

##### CYBERNETICS AND MANAGEMENT 84

*Engineering principles of "feedback" control can help in understanding how to manage men*

Sir Geoffrey Vickers

##### MARRIED WOMEN IN INDUSTRY 86

*How Peek Freans have successfully tackled the problem of employing part-time workers*

George Macrae

##### HE GETS THE BEST OUT OF 20,000 WORKERS 91

*Biography of D. P. Welman, present chairman of the North Western Gas Board*

Alan Whitehead

##### HOW TO GET RESULTS FROM 94

##### TECHNICAL CAMPAIGNS

*Final article of the "advertising" series*

Don A. Tibbenham

##### YEAR'S TRAINING ATTRACTS OFFICE 97

##### STAFF

*Describing Marley Tile's 48-week training scheme for young girl office workers*

Hugh Lindsay

Contents Continued ▶

#### NEXT MONTH

##### Competing Against the Germans

*The opening article in the January issue will compare the export activities of Britain and Germany in key industries and in the leading overseas markets. Also case-histories will be presented describing the methods used by British firms which have competed successfully against the Germans*



Mr. Casson of C. R. Casson Ltd., has been a satisfied user of the DICTOGRAPH loudspeaking telephone for many years. When Mr. Casson moved into new offices he did not require the normal type of office desk and he asked Mr. R. D. Russell, R.D.I., F.S.I.A. to design a round table for informal conferences, with a separate work cabinet to contain his personal letters and files. The accepted design shows how neatly this request was carried out, and how well the DICTOGRAPH Master Station giving direct key, priority link with 32 other instruments, has fitted into its new surroundings.



BY APPOINTMENT  
TO HER MAJESTY THE QUEEN  
SUPPLIERS OF DICTOGRAPH TELEPHONES

## DICTOGRAPH TELEPHONES LIMITED

438 Abbey House, Westminster, S.W.1

ABBEY 5572



Whenever  
pension schemes  
are  
mentioned

the name to  
remember is  
**The  
General Life**

Associated with  
GENERAL ACCIDENT FIRE AND LIFE ASSURANCE CORPORATION LTD  
ROAD TRANSPORT AND GENERAL INSURANCE COMPANY LTD  
SCOTTISH GENERAL INSURANCE COMPANY LTD  
THE ENGLISH INSURANCE COMPANY LTD

**THE GENERAL LIFE ASSURANCE COMPANY**

Established 1837

General Buildings, Perth, Scotland

GL/10

DECEMBER, 1955

3

## Contents for December Continued

### FACTORY

#### THESE WORKERS BECOME EFFICIENCY 'EXPERTS'

99

*Describing how work simplification courses at C.A.V. are used to "exploit" every employee's ability to suggest improvements*

Peter Spooner

#### PLANNING AND PRODUCING FOR A NEW MARKET

104

John Parkyn

#### INDUSTRIAL EQUIPMENT

154

### OFFICE

#### OFFICE COPYING

108

*Case-histories describing three systems*

William Jay

#### STOCK CONTROL WITH VISIBLE RECORDS

115

*How Lincoln and Nolan, Irish stockists for Austin and Rover control 20,000 stock items*

Paul Bennett

#### ADVANTAGES OF GOOD RECORDS

#### MANAGEMENT

121

*How the installation of a centralized filing system in an engineering firm has saved time and improved service to customers*

Antony Billington

#### FOR YOUR OFFICE: Equipment Survey

141

### CANTEEN & WELFARE

#### HOW PHYSIOTHERAPY HELPS PRODUCTION

131

*Some general points plus a case-history*

Eric Smethurst

#### EXECUTIVES' DINING ROOMS

137

W. McCullough

#### WELFARE EQUIPMENT

154

#### CANTEEN EQUIPMENT

154

#### Classified guide to advertised equipment

166

#### Alphabetical list of advertisers

168

### COVER PICTURE

Christmas decorations in Regent Street, December 1954. Regent Street provides an outstanding example of co-operative effort to produce a uniformly high standard of decorations which enhance the reputations of all firms concerned.



**Change of subscriber's address:** Please notify Publishers six weeks before change of address is to take effect, giving present address in full and new address.

BUSINESS, Vol. 85, No. 12 (incorporating "The Magazine of Commerce," "Modern Business," "System," "Business Organization and Management," "Business News Digest" and "British Industrial Equipment"). Published monthly by Business Publications Ltd., registered office 180 Fleet Street, London, E.C.4. (Waterloo 3388). 30/- a year post free U.K. and Eire; 35/- Overseas.

Advertisement, editorial and sales offices: Mercury House, 109-119 Waterloo Road, London, S.E.1 (Waterloo 3388).



*Acoustics by* **BURGESS**

... selective sound control with  
Burgess acoustic tiles

**BURGESS PRODUCTS CO. LTD.**  
ACOUSTICAL DIVISION, HINCKLEY, LEICESTERSHIRE

*For new ideas\**

## ON ACTIVE DOCUMENTATION

To spread more essential information, more accurately, to more people — that's the purpose of all business documentation. And the speed with which information spreads is governed by the speed of the copying process. There is a Remington Rand technique that uses original documents to produce quick, accurate, cheap copies in any quantity. It's called Active Documentation.



\*

### This is Auto Dy-printer

Working from translucent master-records, this new Remington Rand dy-line printer makes up to 500 copies per hour; each clear and photo-accurate, each costing less than 1/4d. for a 10" x 8" sheet. Auto Dy-printer masters act as permanent, amendable records; may be ledger cards, job-cards, stock returns, order forms or any kind of business document. They are durable and cheaper than ordinary record-cards; do away with the need for carbons, take up much less storage space. If you've a knotty documentation problem challenge Auto Dy-printer to beat it.

*Send for the man from*  
**Remington Rand**

**COUPON:** I would like to know more about Auto Dy-printer.

Please \* ask your representative to arrange a free demonstration ☐ \* provide further information ☐  
(tick course of action required)

Name..... Position.....

Address.....

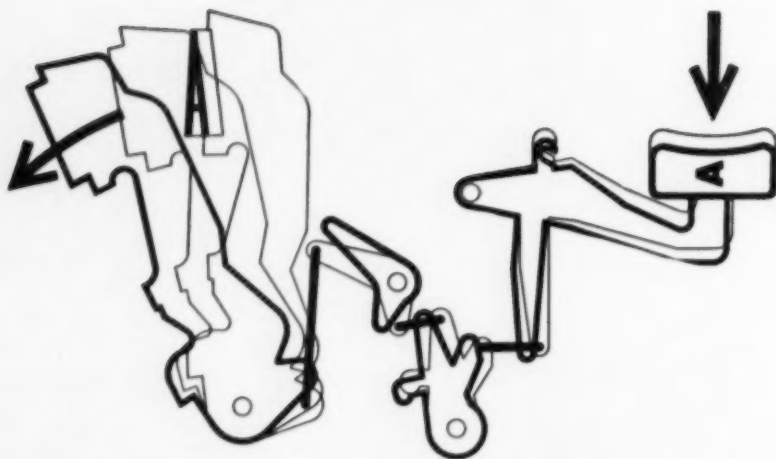
GM137

REMINGTON RAND LTD · 1-19 NEW OXFORD STREET · LONDON WC1 · CHANCERY 8888





# olivetti



in the office  
**Lexikon**

and out of the office  
**Lettera 22**



The office equipped with Olivetti Lexikon typewriters has many advantages. For sheer functional simplicity of design the Lexikon has been commended all over the world. In the range of its performance, in its ease of operation, and for the clarity of its work it has earned the highest praise of typists - and particularly of those who delight in being able to please the most exacting of critics.

Automatic margin stops - Key-trip device - Articulated bail-rod - Automatic tabulator - Accelerating typebar action - Carriage on ball bearings - Personal touch-tuning - British made.



To produce a portable typewriter which, except for its size and weight, lacks none of the up-to-date features of a standard-size machine is, in itself, something of an achievement. Add to that the Olivetti flair for simplicity of design and precision of robust engineering construction and you have the Lettera 22 - the portable typewriter that is completely at home anywhere.

43 keys - Personal touch-tuning - Key-set tabulator - 4 position line spacing - Standard size ribbon - Full-length platen - 2 colour ribbon - Stencil cutting device - Weight 8 lbs. 2 1/2 ozs. - British made.

## **British Olivetti Ltd.**

10 Berkeley Square - London W. 1

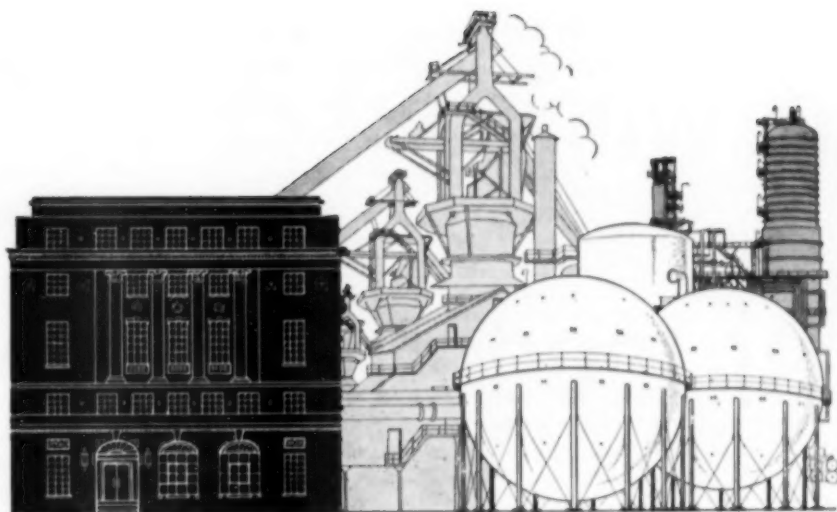
Sales Branches:

London - 32/34 Worship Street, E.C. 2.

Glasgow - 115/207 Summerlee Street, E. 3.

Authorized dealers throughout the country





## —by the company we keep

The company we keep is exacting company. In our dealings, whether with banker, steelmaker or industrial chemist, we must continually measure up to their uncompromising and searching standards of achievement and stability.

Our concern is with any business with a problem which can be solved by punched card methods—electrical or electronic—a fact which can only be discovered by talking the problem over.



**HOLLERITH**  
PUNCHED CARD  
ACCOUNTING



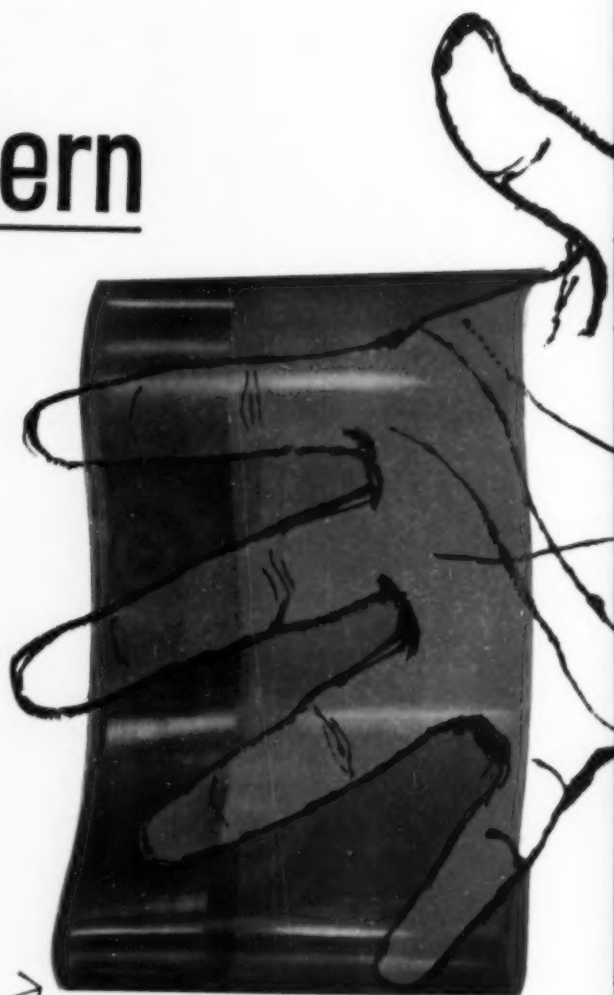
**THE BRITISH TABULATING MACHINE CO LTD**

*Offices throughout Great Britain and Overseas*

HEAD OFFICE: 17 PARK LANE, LONDON, W1 TELEPHONE: HYDE PARK 8155

The world's  
most modern

dictation  
record  
looks like  
this



*A partly recorded  
Dictabelt record*

**This** is the Dictabelt record, a red plastic belt, the exclusive recording medium of the Dictaphone Time-Master dictating machine. The Dictabelt represents the most efficient, most time-saving method of office dictation for the time-conscious business man.



**The Dictabelt record stands up to treatment like this!**

Crush it! Bend it! Tread on it! You can't impair the recording. You can't erase it by accident. The Dictabelt is virtually indestructible.



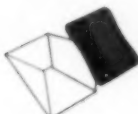
**The Dictabelt record sounds like this!**

Clear as a bell. And the Dictabelt gives you crystal-clear reproduction all through — *uniformly* clear from beginning to end.



**The Dictabelt record files like this!**

The Dictabelt can be filed in an ordinary filing cabinet like a sheet of paper.



**The Dictabelt record mails like this!**

Just like an ordinary letter, the Dictabelt can be slipped into an envelope and posted.



**The Dictabelt record costs about this!**

Actual experience proves that in use the Dictabelt costs only a few pence a day.



**And it gives you completely visible recording!**

Place-finding is easy. You see exactly where you left off. Corrections are simplicity itself.

# **DICTAPHONE** REGD. TRADE MARK **GREATEST NAME IN DICTATION**

Only the Dictaphone Time-Master uses the Dictabelt — the world's most modern dictation record



Branch Offices:

BELFAST BIRMINGHAM BRISTOL CORK DUBLIN EDINBURGH GLASGOW LEEDS LIVERPOOL MANCHESTER NEWCASTLE

**Dictaphone Company Limited**

Dept. 15 17-19 Stratford Place, London, W.1  
 Hyde Park 9461

I would like to try the Dictaphone Time-Master. Please arrange a demonstration for me.

**NAME** \_\_\_\_\_

**COMPANY** \_\_\_\_\_

**ADDRESS** \_\_\_\_\_

# SPEED UP coin counting ...electrically!

## THE INTERNATIONAL VEE-THREE

With this new ICC machine, taking a minimum of table-space, an unskilled junior can count up to 2,000 coins of any single denomination in one minute, packing them and recording totals as well. And absolutely no risk of error! Automatic stops are adjustable for bagging in any quantities up to 15,000; or fittings are available to pack the coins in rolls. Machine is electrically-operated, trouble-free. Finished in grey enamel with chromium fittings. Ask us to arrange a demonstration in your own office.



## THE INTERNATIONAL F.4.

More complex operations are possible with this larger ICC machine, which will count, sort and record up to £1,200 of mixed silver per hour! Deals with denominations of 6d, 1/-, 2/- and 2/6, and is ideal for speedy make-up of cash 'floats' and for checking. Easily operated by a junior, releasing skilled staff for more important tasks. Floor space required, only 3 feet by 3½ feet. Write for fully descriptive leaflets about this and other ICC time and work-savers.



INTERNATIONAL COIN COUNTING MACHINE CO. LTD.

17 ALEXANDRA ROAD, ENFIELD, MIDDLESEX. PHONE: HOWARD 3027  
(Pto. Bch. Exch.)

Makers of letter-opening, letter-sealing, coin-counting and token-counting machines.



## It took imagination to produce neoprene

Imagination played an important part in producing neoprene—the imagination of chemists, plus years of intensive research. And imagination was used by industrial designers and manufacturers to adapt this remarkable man-made rubber for conveyor belts, solid tyres, V-belts and thousands of other products. In fact, the uses for neoprene are nearly as limitless as imagination itself. For neoprene possesses a unique combination of properties that can be varied by compounders to meet the needs of an almost infinite number of different products.

Neoprene withstands heat and the deteriorating effects of oil, grease and chemicals. And its resistance to abrasion, flame, cutting and chipping is unparalleled among similar resilient materials. All these out-

standing properties explain why Du Pont neoprene is used by the world's foremost rubber manufacturers for their finest products. For more information write to the U.K. distributors

**DURHAM RAW MATERIALS LTD**  
1-4, Great Tower St., London, ECA



**E. I. DU PONT DE NEMOURS & CO. (INC.)**  
ORGANIC CHEMICALS DEPARTMENT



Export Division B-7  
WILMINGTON 98, DELAWARE, U.S.A.

BETTER THINGS FOR BETTER LIVING... THROUGH CHEMISTRY







"Here's another sensible  
aid to office  
comfort and efficiency.  
Extraordinary how  
these Lindicator people  
seem to know  
just what  
I've always wanted!"



## the NEW labour-saving LINDICATOR MOBILE DESK

The Lindicator Mobile Desk not only enables an operator to keep the whole working surface of her main desk clear for papers, etc.; it makes machines transportable from desk to desk, or room to room, *without hard labour*. As a desk, it is well proportioned and satisfyingly sturdy. On the move, it is a featherweight—and so easily manoeuvrable.

*Lindicator mobile desks make typing twice as tidy, typewriters twice as useful, typists twice as happy. . . . They are equally handy for Desk Duplicators, Calculators and many other office machines.*

Any item of Lindicator equipment will gladly be sent on a fortnight's free trial without any obligation whatsoever.



Patentees and Manufacturers : LINDICATION LTD., HONG KONG WORKS,

EXHIBITION GROUNDS, WEMBLEY, MIDDLESEX

Telephone WEMBLEY 4126

MOBILITY  
FOR  
HER  
TYPEWRITER  
\*  
ROOM  
TO  
SPREAD  
ON  
HER DESK

Improved

For charts use

**Movigraph**

**NOW BETTER THAN EVER!**



**SIMPLE**  
**EFFICIENT**  
**FLEXIBLE**

New Movigraph Signals and Panels have been so designed that the former cannot be accidentally dislodged from the latter.

**Movigraph**

Made in England

Pat. No. 661692.

**the finest and most flexible  
charting system in the world**

Complete and send this coupon NOW!

To **ADAPTA-CHARTS LTD., (DEPT. B), 93-94, CHANCERY LANE, LONDON, W.C.2.**

(Telephone: CHANCERY 9354)

Please send Literature describing Movigraph to:

Messrs. \_\_\_\_\_

For the attention of \_\_\_\_\_

the **FACTS** you want... immediately! visibly!

*what else?*

### these special advantages

A Seldex system is planned by experts after close consultation on your individual needs. You can be confident, therefore, that the potentialities of Seldex are being fully exploited to give you the speediest fact-finding. The many exclusive features of Seldex ensure that this is done with maximum clerical economy and the minimum of human error.

The full extent to which your organisation can benefit from Seldex invites serious examination. We shall be happy to supply the relevant details if your secretary will complete and return the coupon below.

# CONSTRUCTORS

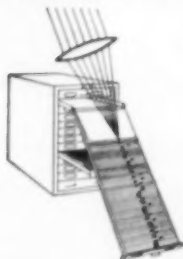
REGISTERED TRADE MARK

**SELDEX**

visible recording systems

FOCUSES YOUR FACTS

*Approved by the Council of Industrial Design.*



*"made-to-measure"*

for you

#### POST COUPON TO-DAY

To Constructors Group, Dept. B, Tyburn Road, Birmingham 24. Please send, without obligation, details of Constructors Seldex Visible Recording Systems for use in \_\_\_\_\_ Dept., and a copy of "Seldex, how it works".

NAME \_\_\_\_\_

FIRM \_\_\_\_\_

ADDRESS \_\_\_\_\_

# SOUND BUSINESS . . . is our business



*Inter-Auto*

## INTERNAL LOUD SPEAKING MASTER TELEPHONE

This master instrument is specifically designed to work in conjunction with our fully automatic equipment, which is suitable for installations from 10 to 1,000 lines. The rapid key-calling facility enables the busy executive to contact any one of twenty selected extensions by simply operating the appropriate key and other extensions can be dialled in the usual way. A handset is provided for private conversations and priority facilities are incorporated. Loud-to-loud facilities are provided without speak/listen keys—leaving both hands free. The cabinet is of solid polished walnut with Florentine bronze fittings, but special finishes can be provided to suit individual colour schemes.



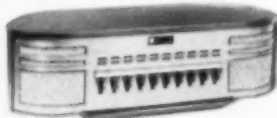
**21-LINE INTERDIAL TELEPHONE.** The only dial telephone in the world which does not require an automatic switchboard. Full intercom facilities provided. Available in black, ivory, red or green finish. Mains operated.



**STREAMLINED AUTOMATIC TELEPHONE.** Our very latest instrument, which is fitted with extensible handset cord and plug-in rosette. Available in black or ivory and also special red, tan and grey leather finish.



**9-LINE OMNIBUS TELEPHONE** Specially suited for the smaller office where conference circuit is required.



**INTERCHIEF.** A streamlined loud speaking master instrument suitable for 10 to 20 lines. Completely mains operated—no battery troubles.



**THE NEW INTERRECORDER** Magnetic Tape Recording Machine. No tape threading — inter-changeable cassettes holding spools of tape for 30 minutes' recording. Can be used in conjunction with telephone equipment to provide centralized typing pool facilities.

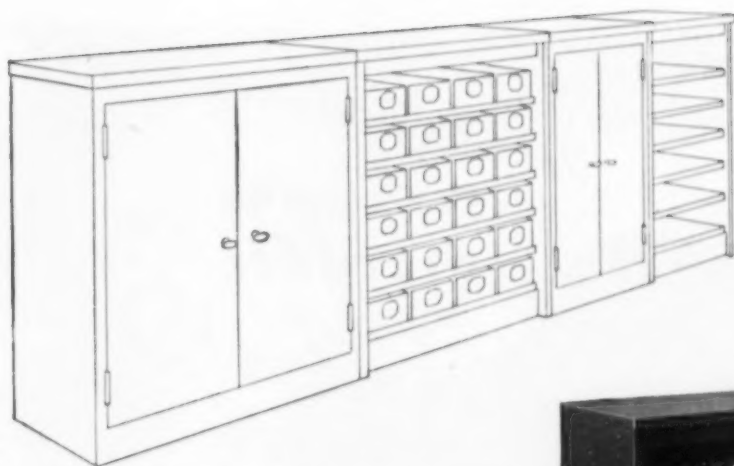
The above is a selection from our vast range of equipment, and full details and specifications of our various models are available on request.

Sales & Service: Bridge House, 181/4 Queen Victoria St., E.C.4  
Telephone CENTral 0791-5 (P.B.X.)

WORKS: Ferndown Works, Northwood Hills, Middlesex  
Telephone PINner 1103-5 (P.B.X.)

**SHIPTON**  
E. SHIPTON & CO. LTD

and at Birmingham, Bristol, Cardiff, Exeter, Glasgow, Hove, Leeds, Leicester, Newcastle, Norwich, Southampton and Dublin



### *Powers-Samas card storage units for punched card users*

Powers-Samas card storage units are available in two ranges for all card sizes — (a) a series of cabinets at the traditional height of 72 ins. and (b) a series of cabinets at the "counter height" of 40 ins. Counter height units are 18 ins. deep and are supplied in two widths — 36 ins. and 24 ins. The shelves are supported without the use of nuts and bolts and can be instantly removed or adjusted to requirements. These units combine storage room and working surface. Placed side-by-side they form a continuous working surface which can be constantly extended and built up in any combination of units.



### *Protect your connection boxes*

Specially designed connection box Cabinets house connection boxes safely and efficiently. Two kinds are available: small box-cabinet style designed to stand on a shelf or be fixed to a wall; and the three-drawer type cabinet illustrated. The three-drawer cabinet provides maximum storage capacity in the minimum space and gives ready access to connection boxes. Forty inches high these cabinets can be placed side by side, together with card storage cabinets of the same dimensions if required.



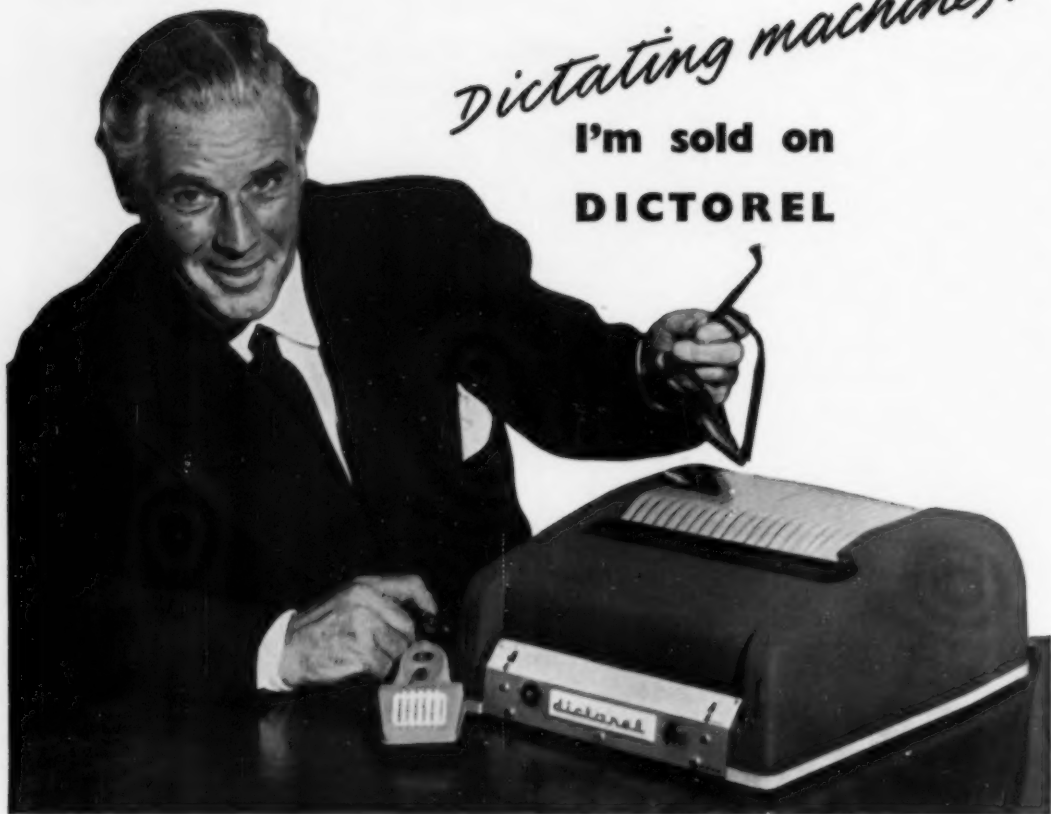
## **POWERS-SAMAS**

Powers-Samas Accounting Machines (Sales) Ltd., Powers-Samas House, Holborn Bars, London, E.C.1.

*Dictating machines?*

**I'm sold on**

**DICTOREL**

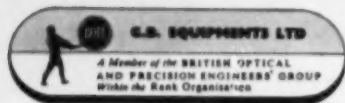


It's intelligently designed to do so many jobs so well, that's what we like about DICTOREL. It's reliable, flexible—such thoroughly good value. As an investment it pays a 125% dividend... creates greater office productivity *plus* pleasant all round efficiency. Ask the Ladies—they think DICTOREL is wonderful. We too; we're coping with extra business using exactly the same staff and office space. And we get away at a reasonable hour nowadays. We just couldn't do without DICTOREL.

DICTOREL records on unique magnetically-coated sheets of paper—the natural medium for office use... cuts out fiddling with tapes or wires... is extremely simple to use—typists really like it... is a compact, beautifully-made precision job... is used by leading business houses everywhere... is supplied and serviced throughout the U.K. and indeed the world. Call, write or 'phone for 7 DAYS' FREE TRIAL—without obligation.

**dictorel**

ELECTRONIC DICTATING/  
TRANSCRIBING MACHINES



(Electronic Division), Mortimer House, 37-41 Mortimer St., London, W.1.  
MUS 5432.





at **MAPLES** you'll find the  
very best office furniture

This Senior Executive Desk is supplied in fine walnut veneers with real leather flush panel top to choice of colour. Legs and framing members are of square section steel, finished dark grey. For handling in restricted spaces, the desk can be dismantled. The back and arms of this chair are constructed with a moulded laminated shell upholstered in foam rubber. The covering can be either of fabric or real leather and the legs are walnut coloured.

Whatever your own requirements in office furnishing you'd do well to call upon the vast resources of Maples.

Prices: Senior Executive Desk £98 15s. 0d.

Desk Chair £32 7s. 6d.

Maple & Co. Ltd., Tottenham Court Road, London, W.1. City Office: 8 Drapers Gardens, E.C.2.

BIRMINGHAM · BOURNEMOUTH · BRIGHTON · BRISTOL · LEEDS · LICESTER · NOTTINGHAM · Henry Barker Smart and Brown Ltd · EXETER · Mark Rowe Ltd

M 114

'It's so easy with  
Azoflex . . . . . easy



Azoflex machines and materials, which are backed by all the skill and resources of Ilford Limited, are supplied in a very wide range to suit all office needs and budgets. For descriptive literature, please apply to Ilford Limited, Azoflex Department AZ6A, 104, High Holborn, London, W.C.1 (Tel: HOLborn 3401). Demonstrations of the Azoflex process can be seen at the above address and also, by appointment, at Ilford Limited, 22, Lloyd St., Manchester 2 (Tel: Deansgate 4233) and in other principal cities.

to make perfect copies from any kind of document—written, typed or printed, single or double sided, translucent or opaque—and even from pages in magazines or books up to 4½" thick.



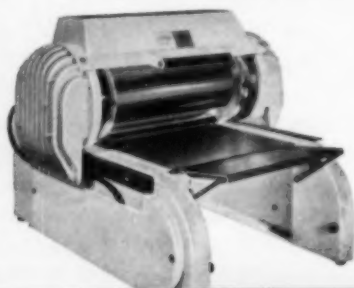
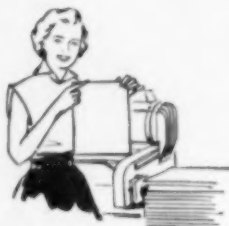
### . . easy

to obtain intense-line, fade-resisting prints without special skill. With the Azoflex Model K.10 Mark II Printing Machine shown here, for example, exposures are automatically controlled by means of the built-in time clock.



### . . easy

to produce any number of copies quickly! It takes only 3½ minutes to make the first dry, flat, clear copy of any document. Extra copies need only 30 seconds each—and they can be handled immediately without risk of cracking or sticking.



**ILFORD** *Azoflex*

**PHOTO-PRINTING MACHINES AND MATERIALS**

**BUSINESS**



## try these keys \*



\* Actual size of keys on all Facit models. The other illustrations show the Facit NTK, one of the hand machines in the Facit range of ten-key calculators.



Why not try your hand at calculating . . . on a Facit ten-key calculator. Nothing could be simpler.

With only ten-figure keys to use, any member of your staff can become a proficient operator after a few minutes' instruction.

Think what this means—all the routine multiplication, division, addition and subtraction in every part of your business, can be handled by any clerk. Essential figures can be computed at a moment's notice. Tedious, time-wasting figuring becomes high-speed, machine-perfect calculating . . . without special departments, trained staff or reorganisation.

You can also use FACIT for on-the-spot calculating and figure checks.

Your Director can use FACIT on his desk for rapid reckoning.

Your Accountant can use FACIT to speed the routine of his department.

Your Secretary can use FACIT on the figures in Company control.

Anyone can use FACIT to save time and labour, wherever there is more than a half hour's figure work a day.

There is a complete range of FACIT hand and electric models . . . each one a precision-built item of equipment for the modern office. Let us send you a FACIT to use on your own work

for a day or two . . . or write first for full details to : **Block & Anderson Limited**, 58-60 Kensington Church Street, London, W.8. Tel : WESTern 7750.

# FACIT ten-key calculators



## OFFICE EFFICIENCY THROUGH **"ARMOURCAST"** GLASS DOORS

What an impression of brightness and efficiency is created in the office fitted with "ARMOURCAST" Glass Doors! Brightness from the way they borrow light to bring it into corridors. Efficiency from the way they smooth the essential comings and goings without jeopardising privacy. And added to these advantages are the ease with which they are kept clean and the absence of painting and maintenance costs.

For further information on the use of glass in building consult the Technical Sales and Service Department, St. Helens, Lancs. (Telephone: St. Helens 4001), or Selwyn House, Cleveland Row, St. James's, London, S.W.1. (Telephone: Whitehall 5672-6). Supplies are available through the usual trade channels. "ARMOURCAST" is a registered trade mark of Pilkington Brothers Limited.



**PILKINGTON BROTHERS LIMITED**  
**ST. HELENS LANCASHIRE**

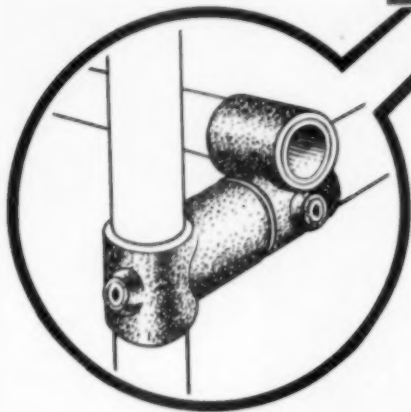


ACQJ

**BUSINESS**

# Increasing productivity at E.M.I. Ltd.

*Sheet Metal Storage. Two-way entry  
pallets are stacked in this Kee Klamp  
Storage Rack to the maximum lift  
of the fork lift trucks, saving space,  
time, energy and materials. Built from  
standard Kee Klamps and tubing.*



another  
**GASCOIGNE  
KEE KLAMP**  
Regd. Trade Mark  
**STORAGE RACK**

**Kee Klamps also make Work Benches—Partitions—Guard Rails, etc.**

*This booklet will tell you more ; write for your copy.*





# U.S. Air Force doubles Kitchen equipment manufacturers build racking to ceiling height

**Only DEXION offers such economy—  
such speed, strength and versatility**

THE United States Air Force establishment at R.A.F. Station, Wethersfield used unskilled labour to build a Dexion storage installation that doubled the capacity of a large stores... Redwing Limited, kitchen equipment manufacturers, also using unskilled labour, built ceiling-high racking in 127 man-hours; this, too, doubled storage capacity.

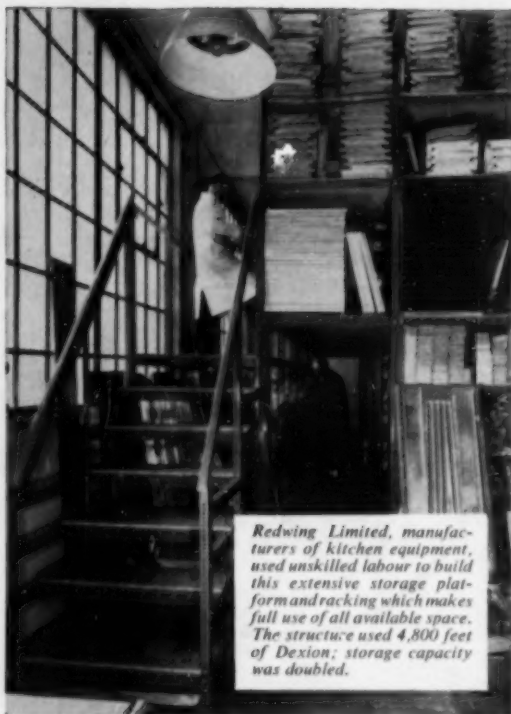
These are just two examples. Dexion is constantly proving that it is the quickest, cheapest, sturdiest material for all kinds of factory and warehouse structures — for storage racks, machine-stands, benches, platforms, trolleys, and a hundred-and-one other jobs. With Dexion you make your own equipment *exactly as you want it*.

Because the work has already been put into Dexion, you can use unskilled labour even for complicated structures; clearly marked at 3" intervals, Dexion needs only cutting and bolting — no close measurements or detailed drawings, no welding, drilling or riveting. And Dexion is rust-protected — so there's no painting.

Thus, Dexion is far easier and quicker to work with than wood or angle iron. Remember, Dexion structures can always be swiftly altered or dismantled, and the Dexion used again. No waste, no scrap.

Dexion 225 has a *scientific* design of slots and holes. Each one has a purpose, and the remaining metal is left where it gives greatest strength. That's why a Dexion structure is rigid in itself — you don't need plates or brackets.

Dexion is the slotted angle that started an industry. Now, over 100 million feet of Dexion are being used by more than 60,000 firms all over the world. And 80 per cent of sales are repeat orders.



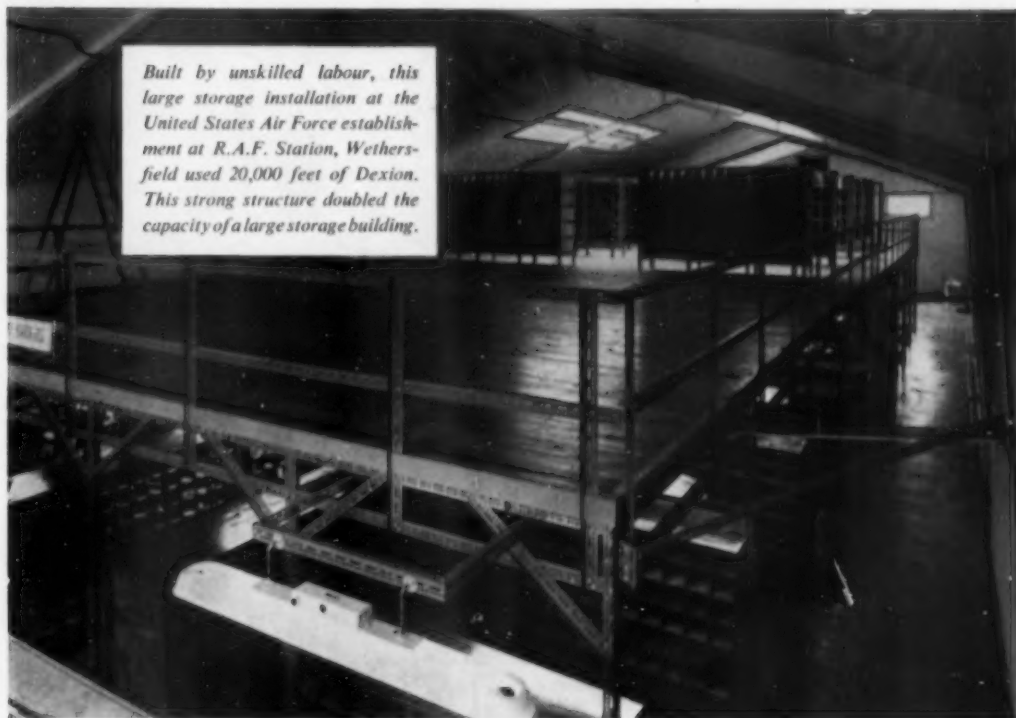
Redwing Limited, manufacturers of kitchen equipment, used unskilled labour to build this extensive storage platform and racking which makes full use of all available space. The structure used 4,800 feet of Dexion; storage capacity was doubled.

## GET THE FACTS

Dexion 225 is sold in packets of ten 10-ft. lengths, complete with bolts. Steel Dexion (price from 1/3¢ to 1/5¢ per foot) is rust-protected, stove-enamelled. Where a light but strong, non-magnetic, non-corroding material is required, use Alloy Dexion (full technical details and prices on request).



# capacity of stores...



*Built by unskilled labour, this large storage installation at the United States Air Force establishment at R.A.F. Station, Wethersfield used 20,000 feet of Dexion. This strong structure doubled the capacity of a large storage building.*

Send today for sample piece of Dexion and illustrated booklet A1.5 showing many uses in industry. Dexion Ltd., 65 Maygrove Road, London, N.W.6. (Telephone MAIda Vale 6031-9.)

## MAKE SURE IT IS DEXION

*If you come across an imitation, compare it with Dexion and bear these points in mind:*

- Dexion gives you exceptional strength.
- Slots and holes are scientifically placed for simplest, safest construction.
- Joints at any angle are positively held by bolts in round holes.
- Dexion overlaps to give extra-long, rigid lengths—no jointing pieces.
- Cut ends are strong and all the same—every offcut is useful.

*With Dexion, you benefit from years of research and experience, a world-wide organization, free technical service, and fast construction teams for big jobs.*



# DEXION<sup>REGD.</sup>

## SLOTTED ANGLE

Dexion 225—Registered No. 870881. Dexion 300—Registered No. 870879. British and World Patents pending.

# The story of 250I C



Valuable Transmitter,  
sealed PVC tape.

Carton, sealed with  
Permacel PVC tape.

**PERMACEL**  
TRADE MARK  
PVC self-adhesive tape

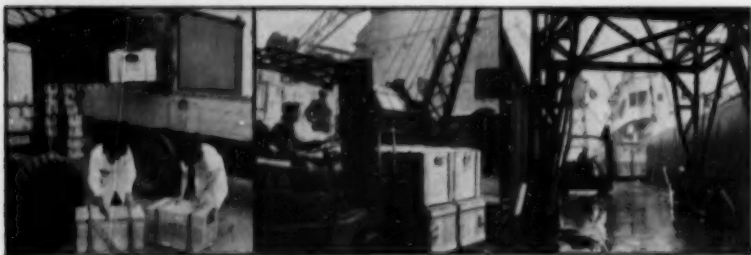


Wrapped mouldable paper,  
sealed Permacel PVC tape.

Wax dipped, identification  
label affixed PVC tape.

After wax dip, Permacel  
PVC tape again.

Another label covered with  
PVC tape.



Crate label nailed and  
covered PVC tape.

Shed H, South-West India  
Dock.

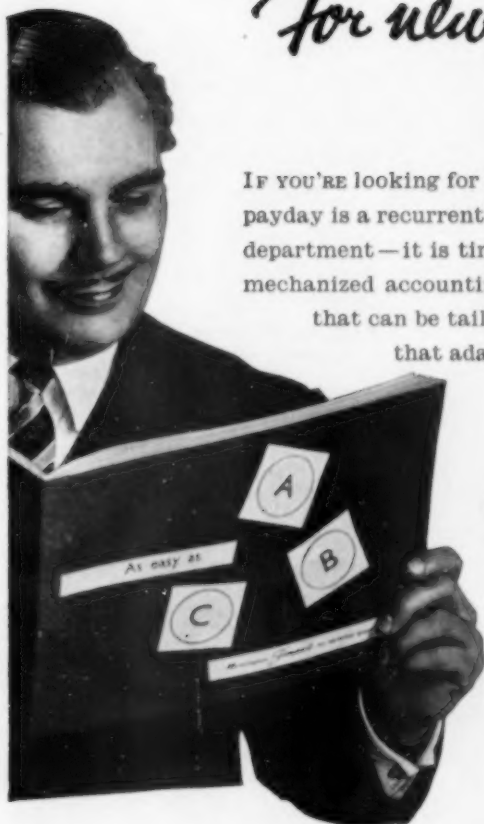
Transmitter on s.s. Wanderer,  
Bombay bound.

All materials used have to measure up to stringent standards. Government Inspectors examine the goods while they are being packed, at one of the largest pre-packaging stations in the country where Government Specification 250I C is at work. Messrs. R. & H. Wale, who are experts in packaging, use Permacel PVC tape when a container has to be completely waterproof.

Permacel self-adhesive un-plasticised PVC tape was chosen for this job because it measures up to Government Specifications and is completely waterproof—that means it is also moistureproof. Neither moisture, damp, rust nor rot can affect your product when Permacel PVC tape has been used to pack it. Permacel PVC tape gets around corners—covers ridges, bumps, imperfections—keeps the whole package really waterproof.

It will pay you to get Permacel tapes and packaging equipment into your firm. Try the Permacel way of improved packaging—the introduction of PVC tapes is only one of the dramatic new ways Permacel tapes are helping you. For over 400 uses for Permacel tapes as well as full details of PVC tape send to-day for the Permacel Brochure.

**Johnson & Johnson** Industrial Division, Dept. B.  
(GT. BRITAIN) LTD., SLOUGH, BUCKS.



*For new ideas\**

## ON P·A·Y·E

IF YOU'RE looking for a way round the complications of PAYE, if payday is a recurrent peak that means overtime in the accounts department—it is time you found out about Foremost. Here is a mechanized accounting system, developed by Remington Rand, that can be tailored to fit your accounting system exactly; that adapts within minutes to any kind of accounts work, however complex or specialised; in fact, a system that does *much* more than settle your PAYE problem.

◀ **THERE IS A BOOKLET** called *As Easy as ABC*. It explains how Foremost provides all pay records in one printing: gives proof of accuracy at all stages; makes instant PAYE adjustments with mechanized legibility, speed and labour-saving. It also details five other applications of Foremost—the most flexible and adaptable of all accounting systems. They will interest you too; MAY WE SEND YOU A COPY?

*\* Send for the man from*  
**Remington Rand**

**COUPON:** I would like to know more about FOREMOST Accountancy. Please \* send me your booklet 'As Easy as ABC' ☐ \* arrange for a representative to visit me ☐ (tick course of action required)

Name ..... Position .....

Address .....

REMINGTON RAND LTD, 1-19 NEW OXFORD ST, LONDON WC1 • CHANCERY 8888



TRY....COMPARE...  
and YOU'LL SELECT

**THE NEW**  
**GRACEFUL**  
**ADWEL**  
Adding-Listing  
Machine

**MODEL ONE**

As illustrated. Capacity £9,999 19. 11½.

Price £45. 15. 0

**MODEL TWO**

As above, with Subtraction.

Price £48. 10. 0

**MODEL THREE**

With Subtraction, Carry-over capacity £99,999 19. 11.

Price £52. 10. 0

Write for further information or trial to

**VAN DER VELDE LTD**

PILGRIM STREET NEWCASTLE UPON TYNE TEL 21504  
LONDON TEL LON 2226

OBTAINABLE FROM ALL OFFICE EQUIPMENT DEALERS THROUGHOUT THE COUNTRY

Built entirely from highest quality steel for years of hardest wear.

Gleaming enamel finish.

Simple construction and accessibility makes operation and service easy.

Fully automatic safety keyboard.

Correction key clears entire keyboard.

Self-adjusting Paper Feed keeps tape always aligned.

Trouble-free performance with minimum maintenance.

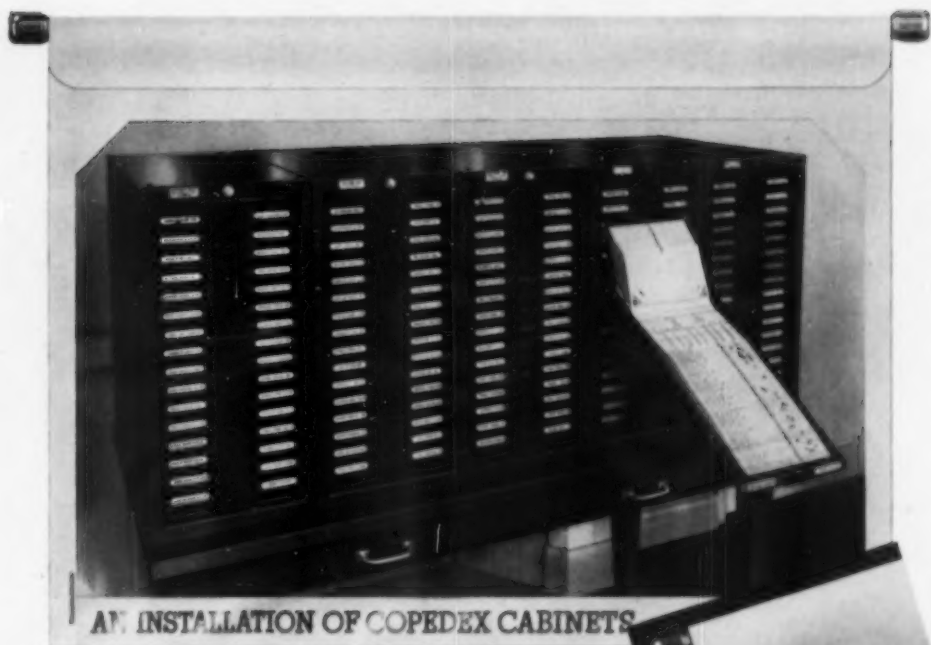
"Finger tip fit" keys for speed, accuracy and quiet operating.

Easy, time-saving right-hand operation gives extra speed.

Figures easily read through transparent paper cutter.



**SENSATIONAL....  
STREAMLINED....  
WORLD'S LOWEST PRICE!**



AN INSTALLATION OF COPEDEX CABINETS

## Credit with Copedex

Are you thinking about Visible Index Equipment because your present records make searching necessary, or because you know it is the most efficient method of presenting information? Copedex spotlights important facts so that you can see them when you want them.

Look at the illustrations and see why you should LOOK AT COPEDEX.



It all hinges on this

Constant Visibility Throughout

Rapid Pocket Re-arrangement

Complete and post this coupon today for full details of COPEDEX.

Name of Firm \_\_\_\_\_

Name and position of writer \_\_\_\_\_

Address \_\_\_\_\_

(Block Letters Please) V.I.-B-12.55

DECEMBER, 1955

### THE COPELAND-CHATTERSON CO. LTD.

London Office and Showrooms: Exchange House, Old Change, E.C.4  
Telephone: CItY 2284

Registered Office and Works: STROUD, GLOS.

Branches at: Birmingham, Bristol, Glasgow, Leeds, Leicester, Liverpool, Manchester, Newcastle-on-Tyne, Sheffield and South Wales. Agent in the Republic of Ireland: 6/7 Clanbrissil St., Dundalk. Agents throughout the World.



# CHEQUES ? or NO CHEQUES ?

*Two views on a subject vital to your business*

**N**OWADAYS many firms are paying their bills by the Credit Payments method. Why? Not only because it relieves Directors from the monthly chore of signing innumerable cheques. Nor because the savings in postage, printing, and bank charges are considerable. It is the automatic and unchallengeable accuracy of all payments records that make this Kalamazoo method so worth-while.

**P**AYMENT of accounts by cheque also offers many practical advantages. Using the Kalamazoo method, cheque and Cash Book entries are made simultaneously, thus saving time and avoiding posting errors. Bank reconciliation is simplified. There are no cheque stubs to write up. Cheque payments are understood by all, and are a suitable method for large and small firms alike.

*WHICH OF THESE TWO METHODS DO YOU PREFER?  
Whether it is Cheques or Credit Payments, we can give you some  
valuable suggestions for both. POST THE COUPON BELOW FOR THE FACTS*

**Kalamazoo**  
LIMITED

*Kalamazoo Ltd., Birmingham, 31.*

*Please give me full information about Kalamazoo Payment Methods  
without any obligation on my part.*

Name \_\_\_\_\_  
Firm \_\_\_\_\_  
Address \_\_\_\_\_  
B \_\_\_\_\_



**In your office...**



## use **STEEL** Desks and Tables

- 70 different types of Sankey-Sheldon steel desks to choose from.
- Fire-resisting, will not warp, easy to clean.
- Alternative drawer arrangements to suit your filing needs.
- Automatic locking for security.
- Neutral Grey or Olive Green baked enamel finish, linoleum tops in several standard colours.
- In dealing with Sankey-Sheldon you buy direct from the manufacturer. Offices and showrooms throughout Great Britain carry stocks ensuring prompt delivery and local service.
- Send for catalogue DT254/B2.



**The people  
to see are  
SANKEY-  
SHELDON,  
of course!**

Desk Prices from £21.0.0  
(P.T. £4.14.6d.)

Illustration shows the  
Masterform Executive Desk

# Sankey-Sheldon

Sankey-Sheldon Ltd., 46 Cannon Street, London, E.C.4.

Telephone: CITY 4477 (12 lines)

STEEL FILING CABINETS    SHELVING

STORAGE BINS · PARTITIONS · MOVABLE WALLS · CUPBOARDS · CLOTHES LOCKERS · LIBRARY SHELVING  
DECEMBER, 1955

# ARE YOU INTERESTED IN MANUFACTURING IN AUSTRALIA?



## LEADING PRECISION ENGINEERS WILL CONSIDER EXTENDING THEIR ACTIVITIES IN NEW FIELDS

WITH THE ADVENT of severe Australian import restrictions many British Manufacturers are looking for ways to maintain and increase their Australian sales.

If your company is interested in the light precision engineering field, J. W. Handley, Pty. Ltd. may be in a position to assist you.

Operating a most modern plant, with a factory area of some 70,000 sq. ft., J. W. Handley Pty. Ltd. have been established for over 45 years and are the largest manufacturers of watch cases and watch bands in the Southern Hemisphere.

The plant includes a very modern high precision tool-making shop, melting plant, rolling and extrusion mills for a comprehensive range of precious metals, solders and bi-metals and metal turning department. The press section is equipped to handle pressings requiring from 1 cwt. to 100 tons capacity, with an output of up to 250,000 units per day.

These engineering sections are linked to modern inspection, polishing, finishing and assembly departments geared to the factory output.

The Board of J. W. Handley Pty. Ltd. would be prepared to consider manufacturing the products of reputable British Manufacturers on any basis, which would provide mutual benefit.

J. W. Handley Pty. Ltd. maintain an established sales organisation covering the whole of Australia, which if necessary, the Company is willing to expand.

Further information can be secured from the Agent General for Victoria, Australia House, London or by direct contact with the Director in Charge of Production . . .

## J. W. HANDLEY PTY. LTD.

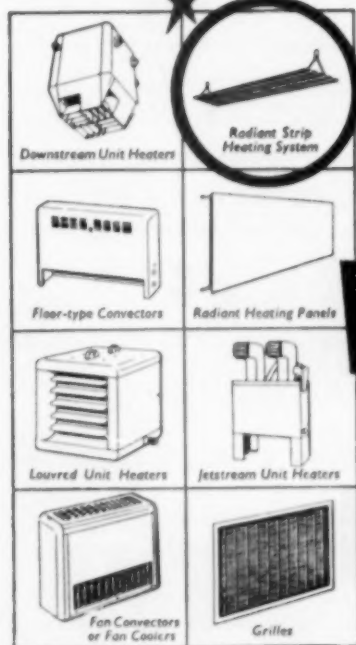
655-7 Victoria Street, Abbotsford  
Melbourne, N.3  
Victoria, Australia  
Cables: "Handlycase" Melbourne

BUSINESS



*on the question of*

**HEATING**



Here it is—'Copperad RAYSTRIP'—manufactured by the pioneers in Unit Radiant Heating Panels. This latest development offers new economies in installation, maximum radiation with more even distribution of heat, and in many cases provides for a more convenient layout. Applicable to small or large buildings, 'Copperad RAYSTRIP' is suitable for use with low temperature hot water as well as medium or high temperature hot water—or steam.

Please write for our publication R.P.101.

**Copperad** the first name  
in heating and ventilating

**Copperad Limited** Head Office and Works: COLNBROOK · BUCKS  
Telephone: Colnbrook 203 (5 lines)

**LONDON:** 1 York Street, Baker Street, W.1. Telephone: Welbeck 1226/7

**EDINBURGH:** 30 Rutland Square. Telephone: Fountainbridge 6067

**BIRMINGHAM:** 1/7 Corporation Street. Telephone: Midland 1553

**BRISTOL:** Chesterfield Chambers, Westbourne Place, Queens Road, Clifton, Bristol 8  
Telephone: Bristol 33003

Representatives at: BELFAST · LEEDS · MANCHESTER · NEWCASTLE-ON-TYNE · NOTTINGHAM  
Overseas Representatives:  
AUCKLAND (N.Z.) · BRUSSELS · JOHANNESBURG · MELBOURNE · TORONTO

# Question and answer



## About the Analytical Accounting Machine with 198 Registers

So this is the Logabax analytical accounting machine?

But where are the 198 registers?

I thought there was a catch! That means I can only analyse to 99 headings in one run?

Very flexible. Is it a slow operation?

That's fast enough for me! How do I check the figures?

Does it take long for an operator to learn how to use it?

Most interesting I must go further into this.

Yes. Not very frightening, is it?

Underneath the machine, in two banks of 99 in each bank.

Oh, no. Both banks can be used for a single run, giving over 190 separate headings of analysis. Alternatively, you can analyse to two different sets of headings, each with 99 registers, at the same time.

On the contrary, it is very speedy. An average operator can analyse over 1000 items per hour.

All entries into the machine, and totals taken from it, are printed on a Tolly Roll—or some other document—so they can be called back. The Machine also provides very adequate check totals.

No, it is a very simple machine to operate. About 2 hours is sufficient to learn the technique, and then it is a matter of practice for speed.

One of our trained Technical Representatives will be very pleased to investigate your problem—without any obligation of course. We would then prepare our proposals actually worked out on the machine, so that you can see exactly what your results will be.

Please make a note of our address.

# Logabax

London address: LOGABAX LTD., 21 Buckingham Palace Road, London, S.W.1. Telephone TATe Gallery 8142-3-4  
Branches at Birmingham and Manchester

# What happens when you buy a *Gestetner*

Immediately you become the owner of a Gestetner you become entitled to the full benefits of Gestetner Service. For *your machine* — FREE MAINTENANCE for ever. For *yourself and your staff* — free access (through every Branch Office) to the GESTETNER SERVICE AND INFORMATION BUREAU, where the help and advice of the world's finest team of duplicating specialists are yours for the asking.

When you buy a Gestetner you solve *all* your duplicating problems in *advance*. The range and quality of Gestetner accessories redouble the usefulness of your duplicator and put every known production technique at your disposal. Even the composition of your Direct Mail literature will gladly be undertaken, if desired, by the talented copywriters and artists of Gestetner's CREATIVE GROUP.

## why not write today

for our latest portfolio — containing particulars of Gestetner equipment and details of Gestetner's unique service organisation?



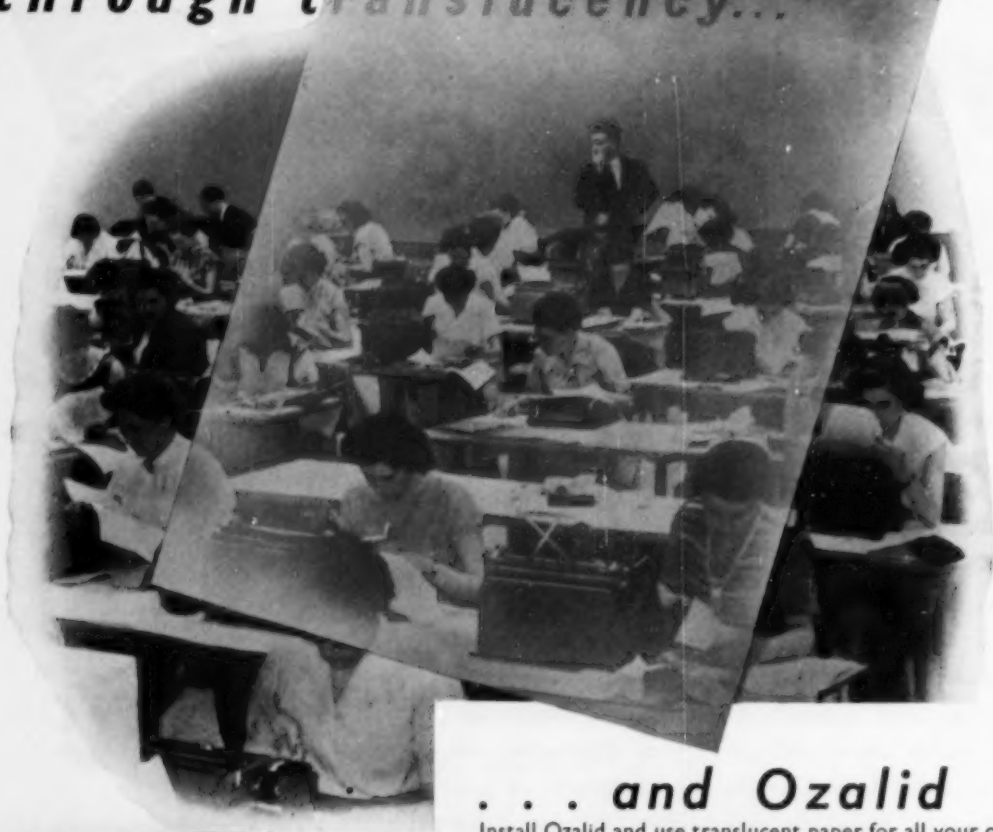
This is, without reservation, the world's finest duplicator — the famous Gestetner 260 Automatic.

From it the Gestetner range extends, through intermediate models, to simple, inexpensive, hand-operated machines — presenting at every level the most efficient duplicator for every conceivable set of requirements.

**GESTETNER LIMITED, ALDWYCH HOUSE, LONDON, W.C.2**



# **INCREASE EFFICIENCY** *through translucency...*



## **... and Ozalid**

Install Ozalid and use translucent paper for all your office forms and new opportunities for increased efficiency and larger savings become reality.

- ★ If your purchase order is translucent Ozalid copies will assist your buying procedure.
- ★ If your salesman's order form is translucent Ozalid copies can serve as invoice, advice note, etc.
- ★ If your reports are translucent you can save days in preparing and distributing them to management.

There are hundreds of other uses to which this DRY developed process can be put. Please feel free to ask our representative to call and tell you how Ozalid may help.

# **OZARAPID**

REGD.

**OZALID CO. LTD. 62 LONDON WALL, LONDON, E.C.2 Tel.: National 0551 (10 lines)**



## "Take a letter Miss Shinnery"

Crazy of course. Yet how many managements are almost as eccentric in their attitude to new ideas for improvement.

That is one explanation for the continued existence of conditions which encourage spoilage, foster accidents, and do nothing to reduce absenteeism.

A faulty visual environment at bench or machine for example, is too frequently the cause of unsuspected eye strain—and eye strain is at the root of much fatigue. Result—spoilage, accidents, absenteeism—a drain on productive effort.

Where *seeing* conditions are indifferent they can often be improved with a properly-planned painting programme; "Colour Conscription for Industry" shows clearly how working conditions in any factory or workshop which is painted with traditional lack of imagination may be transformed and improved; both employer and worker will benefit. May we send you a copy?



### COLOUR ADVISORY SERVICE

*This department is staffed by artists trained in the principles outlined in "Colour Conscription."*

*Perspective drawings can be supplied for your guidance in following these principles; you are invited to make full use of this service.*



## BRITISH PAINTS LIMITED

PORTLAND ROAD, NEWCASTLE UPON TYNE, 2  
CREWE HOUSE, CURZON STREET, LONDON, W.1.

# **TAYLORS**

---

**FOR**

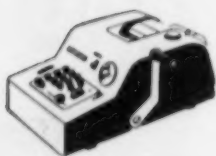
# **TYPEWRITERS**

---

**STANDARD & PORTABLE**



**ADDING, ADDING/LISTING & CALCULATING MACHINES  
of ALL TYPES**



**NEW, REBUILT & SECONDHAND**

---

**TAYLOR'S TYPEWRITER CO., LTD.**

*Write, Call or Phone HOLborn 3793 (5 lines)*

**74 CHANCERY LANE (Holborn End), LONDON, W.C.2. and at Maidenhead**

# It will open your eyes



TEEPOL has been awarded the Certificate of the Royal Institute of Public Health and Hygiene

## to easier cleaning!

Do you have difficulty in maintaining throughout your premises that constant high standard of cleanliness which now, more than ever, is an essential part of your business goodwill?

TEEPOL, the master detergent developed by Shell, will help you solve that cleaning problem.

Counters, slabs, shelves, utensils, floors and all other washable surfaces clean faster and easier with TEEPOL. This versatile modern detergent is always outstandingly efficient, always safe.

Wherever you use TEEPOL (which can be just about everywhere) it will give you maximum cleaning power and satisfaction at the lowest possible cost. Order a trial 4-gallon can to-day.

# Teepol

## cleans just about everything!

Why not order a trial quantity from any of the following Distributors:

**Black, Taylor & Cowell Ltd.,**  
Peltun Fell, near Chester-le-Street, Co. Durham.  
**Burton, Son and Sanders, Ltd.,**  
Wardington House, West Hill, London, S.W.18.  
**Cleenol Products,** 82 Fazley Street, Birmingham 5.  
**Deodor-X Company of England Ltd.,**  
Cromwell Road, Eilesmere Port, Cheshire.  
**J. Evershed & Son Ltd.,**  
Dolphin House, Dolphin Road, Shoreham-by-Sea, Sussex.

**Puragene Products Ltd.,**  
Hygiene House, George Street, Summertown, Oxford.  
**Spess Products Ltd.,** 10 Sovereign Street, Leeds, 1.  
**Stephenson Clarke Ltd.,**  
59 St. Mary Axe, London, E.C.3.  
**Union Chemical & Antiseptic Co.,**  
Muirhall Road, Larbert, Stirlingshire.  
**Yare Industries Ltd.,** Sulfing Road, Great Yarmouth.



**SHELL CHEMICAL COMPANY LIMITED**

"TEEPOL" is a Registered Trade Mark.

\* Overseas enquiries should be directed to local Shell Companies

DECEMBER, 1955

Announcing the new and improved

'200'  
SERIES

**ORIGINAL-ODHNER**

**NEW FEATURES INCLUDE**

Re-styled, streamlined case—not a single unsightly screw.

★ ★ ★

Plexiglass windows over the result, proof and top registers—make figures easier to read and protect against dust and dirt.

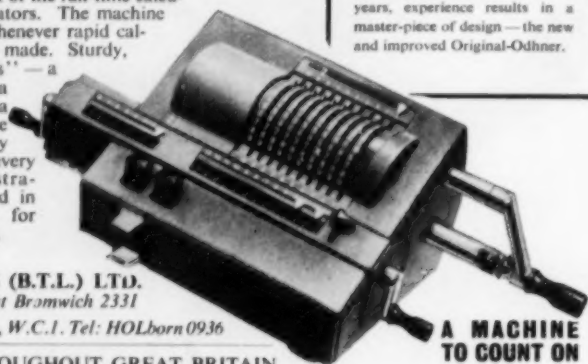
★ ★ ★

Back transfer device with which a sum can be transferred from the result register to the setting board.

★ ★ ★

A clearing device for the setting register placed conveniently next to main crank.

The handiest, sturdiest of all hand-operated calculating machines has now been re-styled and improved with a number of important new features. More attractive, streamlined design. Easier to clean. Even smoother and easier in operation. Better protection from dust and dirt. Just as handy for moving from desk to desk. A great time-saver. Can be used by anyone—without interrupting the work of the full-time calculating machine operators. The machine you can count on whenever rapid calculations have to be made. Sturdy, simple—no "frills"—a machine built for a lifetime's service; a machine to increase the efficiency of any office. Models for every purpose. Demonstrations easily arranged in your office. Write for illustrated literature.



**A MACHINE  
TO COUNT ON**

BT/2371

**OFFICE EQUIPMENT DISTRIBUTORS (B.T.L.) LTD.**

Dept. B6 West Bromwich. Tel: West Bromwich 2331

London Office & Showrooms: 31/33 High Holborn, W.C.1. Tel: HOLborn 0936

**STOCKISTS THROUGHOUT GREAT BRITAIN**



← **This was *ONCE* a business problem!**

Holding on for connections, repeating conversations—tied to a telephone. All these meant loss of time, money and efficiency **EVERY** time you used a **TELEPHONE**

No repetition of conversations when two or more people are together



Doubles her efficiency... leaves both hands free for switchboard operation

Leaves you free to refer to files whilst the receiver is still on the **FONADEK**



A Fonadek by the 'phone guarantees increased efficiency, eliminating up to two hours wasted time each day. The Receiver (G.P.O. or internal telephone) is placed on the Fonadek, it is then possible to speak and hear freely whilst carrying on normal work.

Everyone in your business from Executive to Telephone Operator needs a Fonadek.



**... now solve yours with a FONADEK system**

Just write Fonadek on your letterhead for our brochure  
**FONADEK (BRANSON) LTD.** Dept. B, Vivian Road, Birmingham 17. 'Phone: HARborne 2267/8  
Branches and Agents throughout the British Isles





**'Send him in, Miss Jones,  
he says he can cut down  
our electricity bills'...**

**Every increase** in the cost of coal means higher charges for electric power for Industry. Now is the time, therefore, for every manufacturer to check up on his power bills. It may well be that you, for example, are paying more for electric current than is necessary. A low power factor may be robbing you of hundreds of pounds per annum.

**What, you ask,** is low power factor? We will tell you. In every a.c. circuit feeding an electric motor there flows two kinds of current—'working' current and 'idle' current. When the proportion of 'idle' current is high, the circuit is said to have a low power factor. In other words, electric power is being wastefully and inefficiently used. Indeed, this waste may easily amount to as much as **one third** of your total power cost. And, remember

that this is a continuous loss—one that is going on all the time your factory is working.

**Fortunately,** these losses can be accurately measured and almost entirely abolished by the installation of suitable T.C.C. Power Factor Correction Condensers. These have no moving parts, last indefinitely and their initial cost can usually be recovered within 12 to 18 months.

**T.C.C.** maintain a team of experienced engineers who have made a study of this important subject. One of them will visit your works and measure the efficiency of your mains at no cost to you. Such a visit may well mean a substantial cut in your annual cost of electric power.

*We shall be pleased to send you two non-technical booklets which fully describe the savings now enjoyed by companies who have already installed T.C.C. Power Factor Correction.*



**THE TELEGRAPH CONDENSER CO. LTD**  
INDUSTRIAL DIVISION

NORTH ACTON · LONDON · W.3 · Telephone: ACORN 0061 (13 lines)

GOOD NEWS FOR PUNCHED CARD USERS . . .

# NOW! index cards that never wear out

**EVERTAUT'S SPECIALLY DESIGNED VISIBELL PLASTIC CARDS FIT MOST FILE AND CARD STORAGE SYSTEMS, RESULT IN BIG SAVINGS THROUGH LONG LIFE**

Punched card accounting machine users, particularly those contemplating extensions or new installations, will appreciate these Evertaut plastic index cards. Supplied blank, they will fit most types of tub files, pulling files and storage cabinets. And they offer the greatest of economies. Easy to use, and will not wear out. No tearing, fraying or bending—just permanent crispness and legibility.

## PENCIL OR BALLPOINT

Visibell cards make indexing, etc., easy, taking pencil or ballpoint writing with the greatest of ease and the greatest of legibility.



*these are two of the standard shapes of Visibell card, suitable for most punched card systems.*



## SEND NOW FOR SAMPLES

Free samples and prices are now available. Send for yours today! Please state card size e.g., 36, 38, 40, 65 or 80 columns.

# EVERTAUT LIMITED

WALSALL ROAD, PERRY BARR, BIRMINGHAM, 22B  
Phone: BIRchfields 4587 (4 lines) Grams: "Evertaut Birmingham"



## does the whole job . . .

Cutting costs, slashing time, whittling down mistakes—that's the COPYLINE 500. Here's a machine that combines all known photo-duplicating processes. It produces up to 4/5 copies a minute from suitable single-sided originals, by dyeline process.\* It produces direct positive copies, or masters for dyeline process, from double-sided originals. And it can print down onto sensitized plates for office offset litho duplicators such as "Rotaprint" and "Multilith." See the COPYLINE 500—it does the whole job quickly, simply and inexpensively.

*\*at a cost of approximately 1d. per copy, folio-size size.*

The COPYLINE 500 features continuous feed and automatic exposure and processing for all known photo-copying methods. Full after-sale-service facilities. Complete with fitted pedestal.



Write for full particulars to Dept. D2

# COPYLINE & DIPLOMAT

(A Division of Copycat Associated (Marketing) Ltd.)

11, SOUTHAMPTON ROW, LONDON, W.C.1  
Tel. No. Chancery 8172 (10 lines)

it's an elementary fact...

*Stick-at-a-touch Sellotape  
simplifies the job!*



**TRANSPARENT SELLOTAPE** solves the problem of sealing small and large containers, holding, binding and joining parts or materials in manufacture.

**PRINTED SELLOTAPE** is the answer for labelling direct on to almost any surface. It can be rapidly and cleanly applied—and, what is more, in packaging it advertises while it seals.

**PRINTED SELLOTAPE AD-STRIP** in lustrous colours advertises and stimulates impulse buying from eye level sites—at the point of sale!

It's not fiction... but fact, too, that Sellotape sealing methods save time, labour and material costs. May we show you evidence from recent case histories?

**Sellotape**  
REGD. TRADE MARK

Marketed by **GORDON & GOTCH LTD** • SELLOTAPE DIVISION

39-40 FARRINGTON STREET LONDON EC4 CENTRAL 6531

*Sellotape is the Registered Trade Mark of Adhesive Tapes Ltd.*



## Identical Slots in BOTH FLANGES

ensure  
**100% ADJUSTABILITY**

Wherever you cut it, whichever flange you use, Chevron Slotted Angle can always be bolted in the exact position desired.

And there is **no wastage**; there are always bolt holes, enabling the smallest offcuts to be joined together. Chevron represents **The ULTIMATE DEVELOPMENT of SLOTTED ANGLE**

It is a complete system, with unique features which render it indispensable to every factory, office, warehouse and garage in the land.

Ask for further information today.

Please ask for Booklet 'G'

post free from:—

**CHEVRON  
STRUCTURAL  
UNITS LTD.**

7 Victoria Street  
Westminster, S.W.1

Telephone: ABBey 4161



WORLD PATENTS PENDING

**The Slotted Angle Bar  
with  
NO LIMITATIONS!**

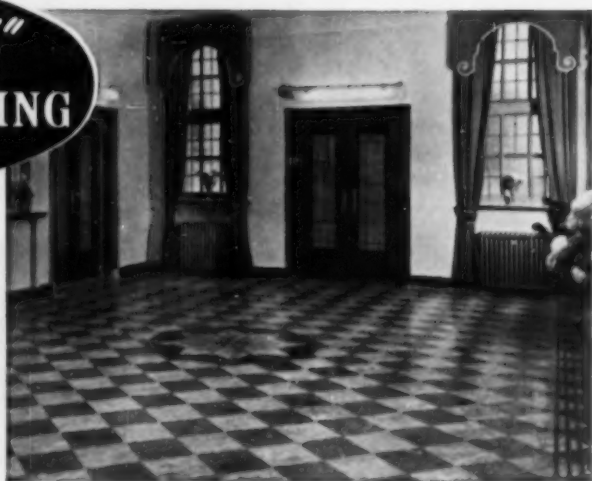
## "Harefield" RUBBER FLOORING

**DURABLE AND  
ATTRACTIVE**

"Harefield" Rubber Flooring is hard-wearing, hygienic and colourful and with its exceptionally wide range of colours can, where desired, be laid to match existing decorative schemes. Trade marks, monograms or other designs can be faithfully copied, and vulcanised in one piece up to 5 ft. 6 in. square.

Laid in offices and showrooms "Harefield" Rubber Flooring introduces a new feeling of dignity and efficiency. Its quiet, resilient surface provides the perfect floor covering for a busy organisation. "Harefield" Rubber Flooring is available in both sheet and tiled form.

We can supply and lay and will gladly submit estimates free of charge



"Harefield" Rubber Flooring laid at The Red Lion Hotel, High Wycombe

4-COLOUR LEAFLET FREE ON REQUEST

**RUBBERWARE LTD.**

Contracts Dept. 20-23 HOLBORN LONDON E.C.1

Tel. CHAncery 7741 Head Office and Works: HAREFIELD, MIDDX.

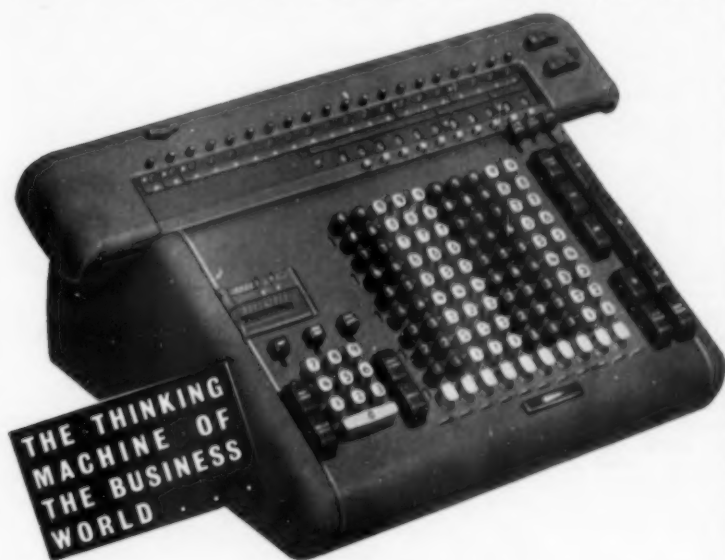


Whatever your business

the **Friden**

FULLY AUTOMATIC CALCULATOR

WILL SAVE YOU BOTH TIME AND MONEY



- The Friden is more automatic than any other calculating machine.
- It is vital to the efficient operation of industry.
- No business can afford to be without it.  
Put one on trial now.
- Models available from **£195**

**BULMERS**

BULMERS (CALCULATORS) LTD. Phone: MONarch 9791  
EMPIRE HOUSE • ST. MARTIN'S-LE-GRAND • LONDON E.C.1

DECEMBER, 1955

**Banker**



**Broker**



**or Builder**







*Manager's Office at Stewarts & Lloyds Ltd., Gough Square, E.C.4. These offices are exclusively heated with Dimplex.*

## The importance of being **Warm** in the office

Are you troubled by increased absenteeism in winter because of cold offices? Statistics show that warm offices result in higher working efficiency and less staff illness.

Have you thought about Central Heating? Not the old idea, with unlimited expense, but Dimplex 'plug-in' Central Heating. No installation costs—just plug in to the nearest power point! No maintenance—permanently oil-filled and fumeless. Absolutely safe—cannot burn or scorch. Economical too—the thermostat cuts off the current when a pre-set temperature is reached. Dimplex electric radiators can be made to switch themselves off at night, and conveniently on again before work commences in the morning, by fitting a time switch.



*Dimplex are light, compact, space-saving; available in 8 colours, and in a wide range of sizes with loadings from ½ to 2kw.*

### PERMANENTLY OIL-FILLED ELECTRIC RADIATORS for plug-in Central Heating

ALSO MAKERS OF DIMPLEX WATER RADIATORS

Write for illustrated brochure BS(2) to:

**DIMPLEX LTD. - TOTTEN - SOUTHAMPTON HANTS.**  
Telephone Totton 2481

London Showrooms: 17 Shepherd Street, W.1.  
(Telephone Grosvenor 1025)

# Speedy \* accurate

## DOCUMENT COPYING

# \* Shackman

Document copying on to Microfilm is now an acknowledged part of commercial economy and the Shackman Micro-Copier is pre-eminently suited for use in this specialised field. Every picture is crisp and clear, and the saving in space, time and labour—not to mention the reduction of fire hazards—is immense.

The added flexibility to your record system if you use the Shackman Micro-Copier, can mean more profit to you, particularly as any member of your office staff can learn to use the apparatus in a few hours.



Write today for literature to the  
Instrument Division of D. Shackman & Sons, Waterside, Chesham, Bucks.  
Telephone Chesham 109 and 690.

**D. SHACKMAN & SONS**  
4 GOLDEN SQUARE LONDON W.1  
AND CHESHAM, BUCKS



## PLAN YOUR LIGHTING with PHILIPS LIGHTING DESIGN SERVICE

If you are faced with the problem of lighting new premises or redesigning the lighting of old ones, bear in mind these vital factors: it's not only the *amount* of light that counts; what is essential for harmonious working conditions is the balance of quantity, intensity and placing.

Philips offer you the services of their trained lighting experts free of charge. These men, including a fully qualified architect, will be glad to co-operate with your own technicians in designing a comprehensive lighting scheme.

This Lighting Design Service is at your disposal, without any obligation. Your electrical contractor can tell you more; or write direct to Philips.



# PHILIPS ELECTRICAL LTD

LIGHTING DIVN. • CENTURY HOUSE • SHAFTESBURY AVENUE • LONDON, W.C.2

*One of the workshops of Waygood Otis Ltd., leading makers of lift and escalator equipment. Lighting installation designed by Philips Lighting Design Service.*

*Some world-famous organisations that have used Philips Lighting Design Service*

SHELL MEX LTD.  
(for their Southampton Offices)  
THE BOWATER PAPER  
CORPORATION LIMITED  
POWERS-SAMAS ACCOUNTING  
MACHINES LTD.  
STEEL COMPANY OF WALES  
PAN AMERICAN WORLD  
AIRWAYS  
R.L.M.  
DE HAVILLAND AIRCRAFT  
COMPANY LTD.

(LDB 412)

## Right in the Industrial Picture



Advertising in *THE FINANCIAL TIMES* puts you right in the industrial picture, for it carries your sales message into the offices and boardrooms where industry's big buying decisions are made. See how many leading industrial firms advertise regularly in the pages of this important newspaper. They know from experience that for reaching right to 'Top Management' and industry's senior executives there is no substitute for *THE FINANCIAL TIMES*.

*Men who mean business read*  
**THE FINANCIAL TIMES**  
*every day*



Advertisers featured: THE BOWATER PAPER CORPORATION LTD. WILMOT BREEDEN LTD. FIBREGLASS LTD. BRITISH TIMKIN LTD. GUEST KEEN & NETTLEFOLDS LTD. BRUSH ELECTRICAL ENGINEERING CO. LTD. THOMAS DE LA RUE & CO. LTD. THE PLESSEY CO. LTD. BABCOCK & WILCOX LTD.

SIDNEY HENSCHEL, ADVERTISEMENT DIRECTOR, 72, COLEMAN ST., LONDON, E.C.2.

### Excessive Wage Claims Reduce Progress

London, November 22, 1955

#### EUROPE PRODUCES THE EVIDENCE

A study of the economic performance of various Western European countries during recent years suggests that an important key to rapid growth lies in trade union wage policy. And it seems that the best trade union policy is this: If you want to gain more, ask for less.

Reports on the various Western European countries have recently been published by the Organization for European Economic Co-operation. We present here quotes which back up our contention.

**United Kingdom.** "Output has been growing at an appreciable, and fairly consistent rate. The gross domestic product rose by 4 per cent in 1954, and that rate of growth appears to have continued into 1955. Over 1954 as a whole, industrial production (excluding construction) was some 7½ per cent higher than the year previously . . . in the first half of 1955 it still amounted to some 6 per cent.

"Unemployment now amounts to only 1 per cent of the insured working population . . . the upward pressure of wages and other costs on prices has been increasing. . . . The United Kingdom has been experiencing difficulties in combining a very full employment level, a high rate of economic growth and external balance. One consequence of full employment and the system of free collective bargaining has been a persistent pressure on wages . . . the recent acceleration in the increase of wages and earnings will tend to encourage further increases in consumption."

**Western Germany.** "Although Germany has been drawing nearer to the full utilization of its manpower reserves during recent months, the expansion of output has not yet involved serious difficulties. In general, consumer prices have been stable, nominal wage increases have been in line with increases in productivity, and balance of payments surpluses maintained.

"Industrial production in recent periods has been rising at an ever-increasing rate. A 9 per cent increase in 1953 was followed by one of 12 per cent in 1954, and during the first half of 1955 industrial production was about 17 per cent higher than in the corresponding period in 1954. . . . The growth of the real national product amounted to as much as 8 per cent in both 1953 and 1954, and seems to have been even faster in 1955.

"Appreciable increases of productivity can be expected in the future as the considerable capital deepening of recent years bears fruit."

**France.** "The real gross national product rose by over 5 per cent in 1954 and the increase is continuing in 1955 at about the same rate. After a period of relative stagnation, industrial production started to increase significantly in 1954, and the recent growth has been rapid. The index of industrial production (excluding building) in the first half of 1955 was about 10 per cent higher than in the first half of 1954.

"Price stability was generally maintained throughout 1954 and the first half of 1955, whereas wages continued to rise. . . . In 1954 and in 1955 to date, exports rose even more in volume than in value. . . . The rise in exports mainly concerned food products.

"The successes of the past eighteen months have been achieved in a generally favourable combination of circumstances. . . . Not all these advantages can be expected to perpetuate themselves, and some have already begun to disappear."

#### Germany Takes Lead

### Wage Restraint Helped Output

"Generally speaking, French prices are too high compared with those in other countries. . . . The primary aim of economic policy must, therefore, be to eliminate this gap in prices.

"It is essential to prevent the development of conflicting claims on the economy that would upset the present equilibrium and further increase the discrepancy between home and foreign prices . . . the benefits of rising productivity must be applied primarily to improving the French competitive position, and it follows that only limited wage increases can be allowed."

**Holland.** "During the past eighteen months the Netherlands has taken advantage of the strong balance of payments position previously achieved, and has allowed home demand to expand considerably. Wages have been increased, and taxes reduced.

"The growth of total output has slowed down after the exceptional rate prevailing in 1953. In 1954, however, an increase of 5 per cent in the gross national product was still achieved, compared with 8 per cent in the previous year; and in the first half of 1955 industrial production continued to run at a level of some 9 per cent above that of a year earlier.

"Rising imports have sharply reduced the Netherlands overall current surplus on foreign account from its previous high level . . . the economy has shown a remarkable ability to absorb large wage increases without seriously impairing its competitive position. . . . But this has largely been the result of the extreme restraint shown in earlier years when, principally as the result of extremely good labour relations, wages rose more slowly than in any Member country other than Switzerland. It is probable that the margin for further increases in nominal wages is now more limited."

**Sweden.** "The real gross national product rose by some 5 to 6 per cent in 1954. The rate of growth seems at least to have been maintained up to the middle of 1955; in the first six months of 1955 the annual rate of increase of industrial production had risen to some 6 per cent. Demand for labour has tended to exceed supply.

"On external account, the deterioration of the trade balance caused the current balance of payments to change from a surplus of \$64 million in 1953 to a deficit of \$32 million in 1954. . . . This trend in the trade balance continued during the first half of 1955.

"The rate of increase of the gross national product, in real terms, is thought likely to fall from about 4½ per cent in 1955 to something nearer 3 per cent in the next two years. Private consumption, stimulated by the rise in the total wage bill of nearly 10 per cent, is playing a more important role in the growth of total demand in 1955 than last year.

"So long as the present state of very full employment persists, pressure on wages and prices is likely to continue, and there is, in particular, a need to avoid further large increases of wages. The rise in prices in 1955 may cause further wage demands when the existing agreements are re-negotiated in the spring."

### Wage Claims

**Italy.** "The slowing down in the growth of the real gross national product from 7 per cent in 1953 to 4 per cent in 1954 resulted mainly from less favourable crop conditions. . . . A boom in consumers' durables and house-building, and a further rise in the volume of exports, supported an expansion of industrial production in 1954 and early 1955 to a level some 8 per cent above that of a year earlier.

"Wages in Italy have been tending to move upwards; between January 1954 and June 1955, the index of wage rates rose by 6 per cent.

"Investment on a much larger scale than hitherto will be required if the mass of jobless and under-employed are to be brought into the productive community and the foreign account is to be balanced. This may call for measures to ensure restraint in the growth of consumption in all sections of the community."

### Reduced Progress

**THE LESSONS FOR US.** In Germany and Holland, where union policy on wage claims was for long much more restrained, the rate of growth of the economy was greater than elsewhere. But whenever and wherever there has been a burst of wage claims, progress has slowed down, and of course there have been balance of payments difficulties.



## SALIENT FIGURES OF THE MONTH

**Production index for August (8)** was 117, or four points below the level in July and 5 points higher than a year earlier. Provisional figure for September was 138-139, which compares favourably with 133 for September last year.

**Value of exports (22)** in October was £268.1 million, being £24.9 million higher than in September, and £45 million higher than in October, 1954, when trade was affected by the dock strike. **Imports (20)** were £333.4 million in October, which was £29.2 million more than in September, but £400,000 less than a year ago.

**Registered unemployed (7)** in October were 215,000, or 13,000 more than in September but 39,000 fewer than in October, 1954. **Total employment in manufacturing industry (3)** was 9,322,000 in September, being 49,000 more than in August, and 217,000 more than in September, 1954. **Employment in the distributive trades (5)** was 2,816,000 in September, which was 3,000 less than in August, but 51,000 more than in September, 1954.

**Retail sales index in September (25)** was 138, being 13 above the figure for August, and 9 points above the level in September, 1954.

**Weekly wage index in September (31)** was 153, or the same as in August, and 10 points above the figure for September, 1954.

**Retail price index (32)** was 152 in October, which was 2 points above the figure for September, and eight points higher than a year ago.

### 'BUSINESS' INDICES

1. Production (12-month moving average) 1948=100
2. Purchasing Power ... (do.)

### MANPOWER

3. Total manufacturing industries (thousands)
4. Textiles ... (do.)
5. Distributive trades ... (do.)
6. Coal (on colliery books) ... (do.)
7. Registered unemployed (G.B.) ... (do.)

### PRODUCTION

8. Index of prodn.: total, all inds. 1948=100
9. Coal (average weekly output) (thousand tons)
10. Gas available at gasworks (average weekly output) ... (million therms)
11. Electricity generated (month) (million kWh)
12. Steel ingots and castings (average weekly output) ... (thousand tons)
13. Cotton yarn ... (million lb.)
14. Rayon yarn and staple fibre (month) (do.)
15. Worsted yarn ... (do.)
16. Sulphuric acid ... (thousand tons)
17. Passenger cars (av. weekly output) (thousands)
18. Commercial vehicles (av. weekly output) (do.)
19. Permanent houses completed (do.)

### TRADE

20. Value of imports ... (£m)
21. Value of imports, Dollar Area ... (£m)
22. Value of exports ... (£m)
23. Value of exports, Dollar Area ... (£m)
24. Freight train traffic ... (thousand tons)
25. Retail sale index ... 1950=100

### FINANCE

26. Currency in circulation ... (£m)
27. Deposits, London clearing banks ... (do.)
28. Provincial cheque clearings ... (£,000)
29. National savings, total outstanding ... (£m)
30. Gold and dollar reserves ... (do.)

### WAGES AND PRICES

31. Weekly wage rates ... 1947=100
32. Retail prices ... (do.)
33. Price indices of materials used in:
  - Non-food mfg. industry ... 1949=100
  - Mechanical engineering ... (do.)
  - Electrical machinery ... (do.)
  - Building and civil engineering ... (do.)
34. Import prices ... 1952=100
35. Export prices ... (do.)

	Latest Month	Increase (+) or Decrease (-) on	Month Ago	Year Ago
1.	133.3	+ 0.4	+ 7.6	
2.	108.0	- 0.2	+ 0.8	

3.	9,322	+ 49	+ 217	
4.	954	Same	- 40	
5.	2,816	+ 3	+ 51	
6.	700	- 2	- 5	
7.	215	+ 13	- 39	
8.	117	- 4	+ 5	
9.	4,375	+ 823	+ 60	
10.	46.8	+ 5.9	- 1.2	
11.	5,900	+ 681	+ 271	
12.	390	+ 53	+ 26	
13.	11.98	+ 0.07	- 1.86	
14.	41.18	+ 5.8	+ 3.24	
15.	14.42	- 2.21	+ 0.18	
16.	153.4	- 11.6	- 9.5	
17.	18.3	+ 4.3	+ 3.8	
18.	7.0	+ 1.4	+ 1.4	
19.	28.64	+ 3.8	- 2.5	

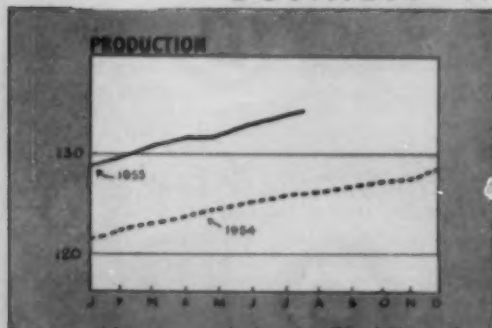
20.	333.4	+ 29.2	- 0.4	
21.	74.5	- 4.5	+ 24.2	
22.	268.1	+ 24.9	+ 45.0	
23.	38.5	+ 3.3	+ 14.2	
24.	5.42	+ 1.19	+ 0.14	
25.	138	+ 13	+ 9	

26.	1,673	- 25	+ 108	
27.	6,345	- 61	- 194	
28.	681	- 53	+ 1	
29.	* 6,136	- 2	+ 129	
30.	820	- 18	- 229	

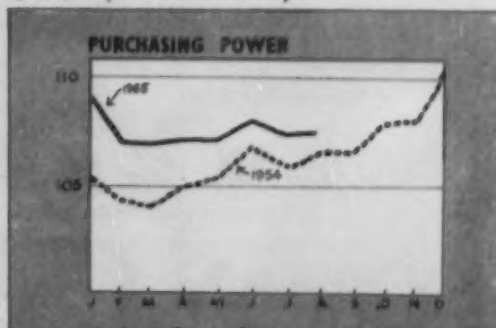
31.	153	Same	+ 10	
32.	152	+ 2	+ 8	
33.	153.0	- 2.9	+ 8.4	
	173.2	- 2.2	+ 18.8	
	189.7	- 4.2	+ 22.2	
	139.4	- 0.1	+ 6.6	
34.	103	Same	+ 2	
35.	103	Same	+ 3	

\* August ↑ October ↓ Four weeks to September 11th, 1955. All other figures refer to September.

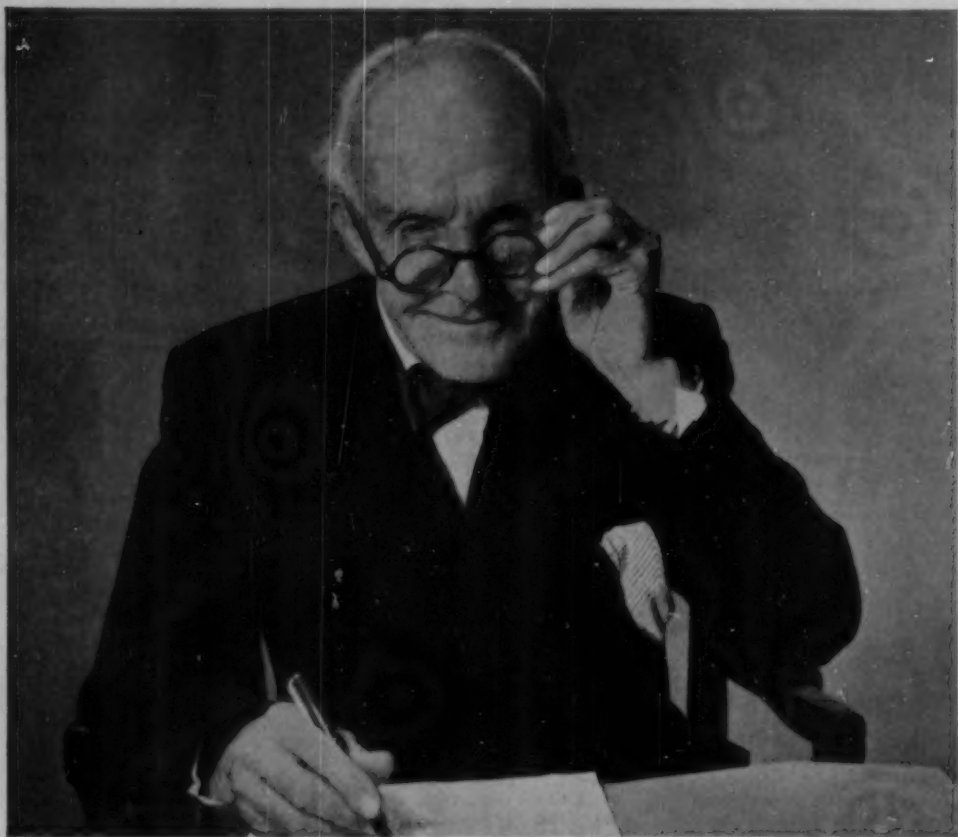
## 'BUSINESS' INDICES (1948=100)



A twelve-month moving average of the Official Index of Industrial Production (Total: All Industries).



An unweighted index of currency in circulation with the public, total bank deposits, and total outstanding national savings.



## Service and Mr. Sedley

Forty-five years ago young Sedley was the office boy. Today, after a lifetime of loyal service, he has become Director and Secretary.

Through the years his salary has increased steadily in proportion to his growing responsibilities... but unfortunately when he comes to retirement his

pension will be totally inadequate, for while current contributions have increased, the pension will still be based largely on his meagre pre-war salary as a clerk.

Most existing pension schemes require periodic revision to overcome such anomalies—a task best entrusted to the largest pension advisers in the country

### *The Noble Lowndes Pension Service*

38 LOWNDES STREET · LONDON · S.W.1 · TELEPHONE SLOANE 3465 (10 LINES)

3 NEWTON PLACE, GLASGOW, C.3 · 25 CROSS STREET, MANCHESTER, 2 · 860 SEFTON HOUSE, LIVERPOOL, 2  
BRUNEL HOUSE, BRISTOL, 1 · 12 EASY ROW, BIRMINGHAM, 1 · 5 EAST CIRCUS STREET, NOTTINGHAM  
7 SOUTH PARADE, LEEDS, 1 · 21 COLLINGWOOD ST., NEWCASTLE-UPON-TYNE, 1 · 58 HOWARD ST., BELFAST  
39 KILDARE STREET, DUBLIN · 106 FOX STREET, JOHANNESBURG

Associated Companies in New York, Chicago, Los Angeles, Montreal, Toronto, Winnipeg, Calgary and Vancouver

## HOME MARKET

## Regional Surveys

★ London and S.E.

★ Midlands

★ Eastern

## London and S.E.

**B**USINESS trends, following the Budget, are not yet sharply defined. Retail sales are on the whole still at high levels, and industrial production is being maintained in the region with manufacturers reporting full order books. One consequence of the Chancellor's recent measures will be increased attention to export trade, accentuating a movement already apparent among area firms.

The number of overseas visits by top executives is increasing, and with the current improvement in delivery dates, export prospects are promising. Capital goods manufacturers can look forward to a continuance of the present steady demand, although makers of some consumer lines may find demand slackening in the New Year, partly due to higher retail prices and partly also to the restrictions on hire purchase which have already had a marked influence on certain goods, such as radios.

Reflecting the widespread industrial prosperity in the area are the employment figures: with over 4 million persons at work the number of unemployed is slightly less than 30,000. Building of new industrial premises continues at a high level although the volume is less than the average for the first half of the year. The number of new buildings approved at the end of September was 3,236, involving an area of 73,300 sq. ft.

Now in progress in London is some £20 million worth of office building. The only building material shortage reported is of steel reinforcing rods. Plans are being considered for the erection of a £500,000 office block—to be known as Old Change House—on a bombed site in the precincts of St. Paul's.

The Earls Court exhibition buildings are to be improved and their earning power developed. To that end a new operating company is being formed which will function for three years, with provision for extension. A project of interest to industry is the new Design Centre of the Council of

Industrial Design which will be opened in the Haymarket early next year with an exhibition space of about 8,000 sq. ft. A further CoID development is the appointment of three new industrial officers to maintain personal contact with manufacturers on the design side.

Development work continues at the Port of London where since the war the Authority have spent £30 million in replacing damaged berths, sheds and warehouses and over £3 million in mechanizing handling equipment. One of the port's latest trades is rubber latex, and an installation for its bulk storage has been built at Tilbury Dock by William Symington and Son.

Full mechanization is advocated, coupled with efforts by the Authority to overcome dock workers' resistance to reduced manning scales. Attention is also drawn to difficulties the Authority is experiencing in developing facilities in densely-built-up areas: land acquired by the P.L.A., for instance, to the north of the Royal Albert Dock for future dock extension has been zoned by the local authority for playing fields. Included in the Union Castle's new £100,000 stores and office building near King George V Dock is a catering training centre where ships' catering staff will be trained with a view to raising the standard of passenger catering at sea.

Plans are going ahead for the new London air terminal at Cromwell Curve, South Kensington, and the proposal for a rail link with London Airport, submitted jointly by B.E.A. and the British Transport Commission, is now being studied by the Minister of Transport. The scheme would involve a new line from Feltham, Middlesex, to the airport.

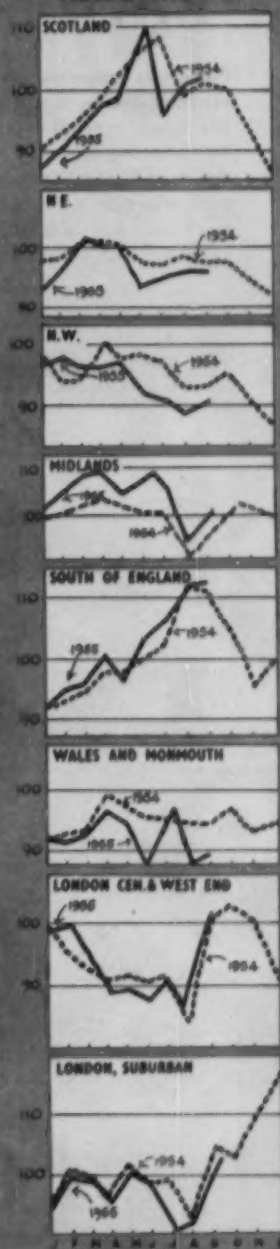
Frederick S. Snow and Partners, of

Continued on page 57

## What the Charts Show ➤

Indices in the charts show retail turnover in each region in non-food merchandise as a percentage of national average (=100) for the month. They are based on Board of Trade retail sales indices.

## REGIONAL RETAIL TRADE INDICES



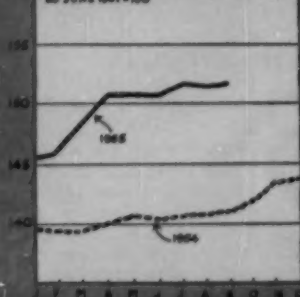
# STATE OF THE NATION

From this comprehensive series of charts, covering the main economic factors affecting the state of the nation, the businessman may gain a perspective of the situation governing his operations

## WAGES AND PRICES

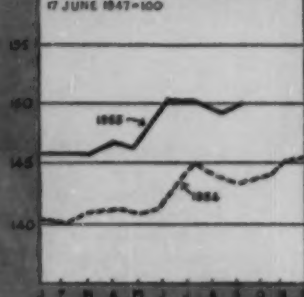
### WEEKLY WAGE RATES

30 JUNE 1947=100



### RETAIL PRICES

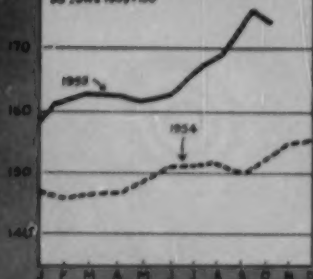
17 JUNE 1947=100



### WHOLESALE PRICES

Materials used in mechanical engineering

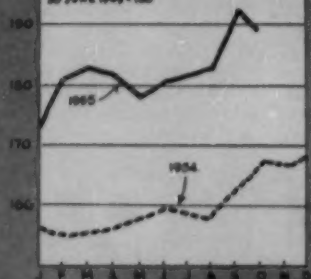
30 JUNE 1949=100



### WHOLESALE PRICES

Materials used in electrical machinery

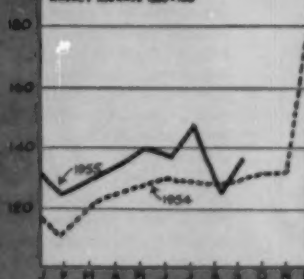
30 JUNE 1949=100



### RETAIL TRADE

All merchandise

WEEKLY AVERAGE 1949=100

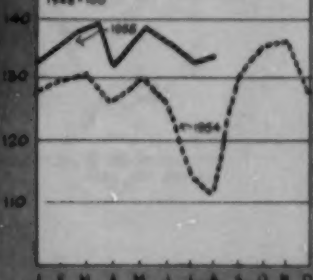


## PRODUCTION

### INDUSTRIAL PRODUCTION

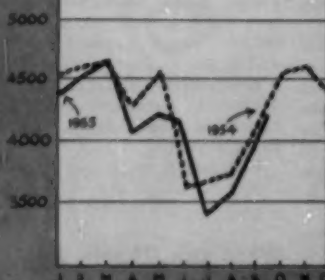
Total manufacturing industries

1948=100



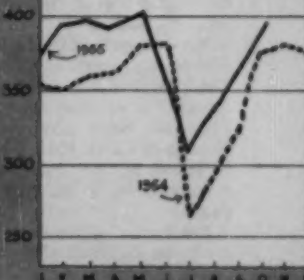
### COAL

Tons 1000s

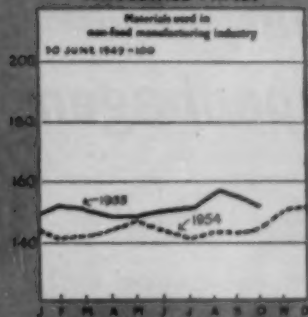


### STEEL INGOTS & CASTINGS

Tons 1000s

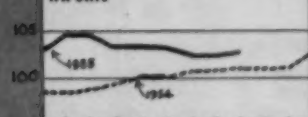


# WHOLESALE PRICES

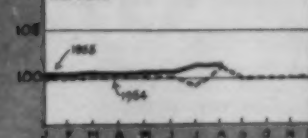


# IMPORT & EXPORT PRICES

## IMPORTS

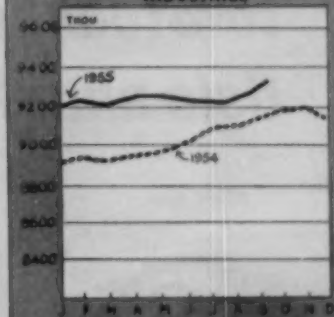


## EXPORTS

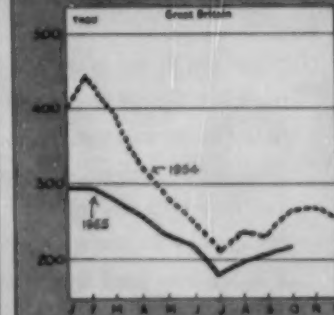


# LABOUR

## TOTAL MANUFACTURING INDUSTRIES

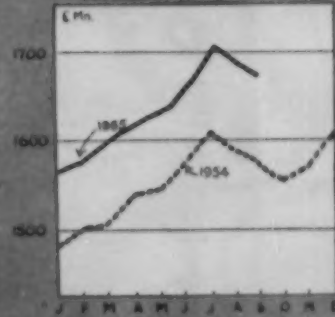


## REGISTERED UNEMPLOYED

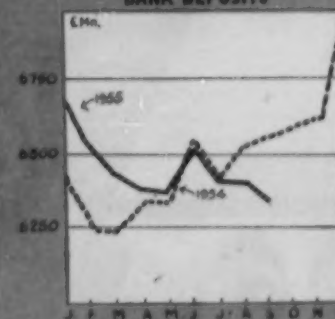


# FINANCE

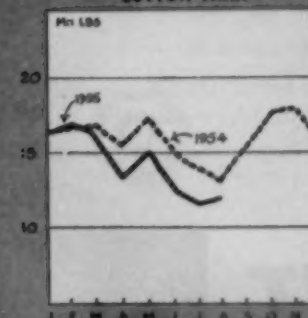
## CURRENCY CIRCULATION



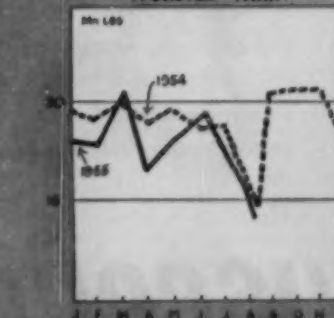
## BANK DEPOSITS



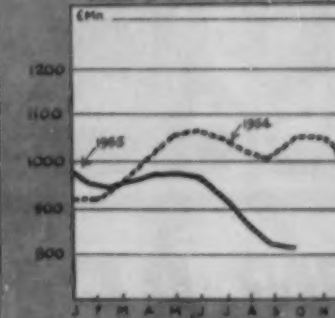
## COTTON YARN




## WORSTED YARN



## GOLD & DOLLAR RESERVES







## ***The Rolls-Royce way to Stockholm, Oslo and Copenhagen***

### ***Non-stop and fastest by BEA Viscount***

When you fly BEA to the Northern Capitals, they really put down the red carpet for you. You fly non-stop and fastest in the wonderful Viscount, powered by its four Rolls-Royce engines. You enjoy admirable food and drink. You have both steward and stewardess service.

Flying BEA Viscount is a new experience in air travel. Which is why Lord Strathalmond, Chairman of the British Petroleum Company, said, after a recent flight, "I could not have wished for anything better in terms of both aviation and comfort". Consult your Travel Agent about the Rolls-Royce way of flying and ask too for details of the BEA Car Hire Plan. STOCKHOLM. 6 services weekly — in 4½ hours (on Monday and Saturday non-stop 3½ hours). Tourist return fare £50.17.0. OSLO. 4 non-stop services weekly. 3 hours flight. Tourist return fare £42.6.0. COPENHAGEN. 6 non-stop services weekly. Only 2½ hours. Tourist return fare £39.3.0.



# ***fly BEA VISCOUNT***

**BRITISH EUROPEAN AIRWAYS**



**BUSINESS**

## HOME MARKET REGIONAL SURVEYS (cont. from page 53)

London, have been appointed consulting engineers for the development of Gatwick Airport. Several new courses for technicians and executives have been announced. For executives wishing to study modern technical developments in the field of management a new residential college has been opened at Sundridge Park, near Bromley, Kent. Average cost for the student at the college, known as the Sundridge Park Management Centre, is stated to be about £30 per week.

The British-American Tobacco Co. have bought a Sussex mansion, Chelwood Vachery, Nutley, for staff training. Courses in gas turbine engines dealing with their application to road transport and industry are now being offered by the College of Aeronautical and Automobile Engineering, London.

With an eye to overseas markets, Acrow (Engineers), of London, are now making their scaffold units, shuttering and other building construction equipment to metric standards. Elcontrol Ltd. have expanded to meet the growing demand for industrial electronic equipment and are moving into a new factory adjacent to their present premises at Hitchin, which they occupied only three and a half years ago. The new plant will provide three times the existing floor area. As a result of the re-organization of their piston manufacturing departments, Automotive Engineering Ltd., Twickenham, have increased output by 100 per cent, and plans are in hand to improve production still further.

The Vevelin Electric Co. have moved to a newly acquired factory at Hurst Green, Oxted, Surrey, on a 30-acre site which provides ample accommodation to meet their expanding order book.

J. H. Sankey and Son (Holdings), the manufacturers and distributors of building materials, are expanding their activities. A site adjoining their Barking premises has been acquired to house the sisalkraft, fireplace and wall-tiling departments and transport workshops.

### Midlands

**EXPANSION** projects are currently being carried out by a number of major industrial concerns in the area. Goodyear Tyre and Rubber Co. (Great Britain) Ltd. are spending £8 million over the next few years in developing

their Wolverhampton factory where already a number of modern processes have been introduced. Building extensions now in hand and covering several hundred thousand square feet should be completed by the end of next year. In view of the labour shortage at Wolverhampton, the company are to erect an additional factory, for the manufacture of **tyres, belting and hose**, in a development area at a cost of £3 million.

Pirelli Ltd., the motor tyre and tube makers, are currently engaged in doubling the size of their Burton-on-Trent factory. Modernization and extension will take three years and cost around £1 million; only a small increase will be required in the labour force. Midlands car component manufacturers have embarked on schemes which will, it is estimated, require some £20 million in capital outlay. Substantial increases in output will be required to match the projected expansion of the motor industry whose output by 1959 is envisaged as double present levels.

A four-year expansion programme at their Rugby factory is now being carried out by British Thomson-Houston Co. With a full order book already, the company aim to increase considerably their production of smaller types of **turbo-alternators, marine turbines, gas turbines, large industrial gear boxes, compressors and blowers**.

One of the most highly mechanized iron foundries in the country has just been erected at Nuneaton for Sterling Metals, a subsidiary of Birmid Industries, for the production of **cylinder blocks**. Due to go into production next year is a new £100,000 plant now being built at Halesowen, Birmingham, for the Mirroware Co., makers of **aluminium kitchen utensils**.

Expenditure on research establishments continues. At the Tube Investments' station at Walsall, which has just been opened, three sections of the technological departments are initially being housed. They deal respectively with irradiated materials, plastics development and control engineering. Garringtons, an associate company of Guest, Keen and Nettlefolds, now have in operation a new laboratory at their Bromsgrove drop forging plant where technical requirements in **drop forgings** will be investigated and assessed. Speaking at the opening of the laboratory, the chairman of the company, R. B. Brookes, said that Garringtons

had grown 37 times in the last 16 years and were now producing 100 million drop forgings annually.

An important addition to the research and design establishments of automobile and component manufacturers in the Midlands is the new **£500,000 centre** of the Ford Motor Co. in Birmingham. At present about 200 engineers are employed there, but the number is later to be doubled. Intended primarily for long-term research, the centre has three divisions concerned with cars, tractors and implements, and power unit design and development.

In the next three years, Rolls-Royce are to spend £3 million on a test plant at Derby for simulating high-altitude flying conditions. A **£350,000 vehicle-and-track testing installation**, which is to be sited between Branston and Wichnor Junction, Staffordshire, will form the first permanent rail test plant in Europe. It forms part of the railway modernization plan and will provide technical data on locomotive, carriage and wagon performance over different tracks and at various speeds.

Midlands industrial activity is taking place against the familiar back-drop of **shortages of skilled labour**. Demand for all types of **heavy steel** continues to outrun supplies. Mills are working to capacity and in some cases will not have cleared current commitments until the middle of next year. Re-rollers, too, are very busy and demand for foundry products is highlighting the present shortage of raw materials. All major sections of the non-ferrous metals industry are active.

### Eastern

**THE** story of full order books and of shortages of labour, materials and space continues. The Eastern region can claim 9 per cent of all the new factory building approved since the end of the war, although applications for industrial development certificates have fallen off considerably in the past few weeks, and over the last six years employment has risen by more than 6 per cent.

Concern is currently being expressed at the lack of progress on selection and approval of suitable sites for the substantial housing schemes necessary in the Luton-Dunstable area. Expansion of industry there has been so rapid that productivity may be affected

through undermanning: at present the ratio of vacancies per man unemployed is five to one in Dunstable and 10 to one in Luton.

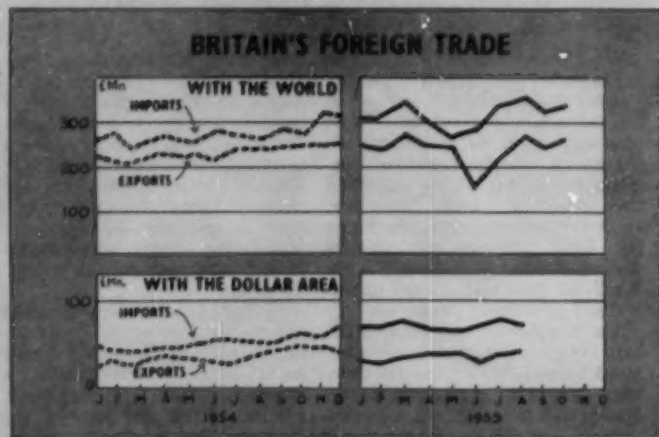
Vauxhall Motors, the biggest local employers, are proceeding steadily with their £36 million expansion scheme which will, when completed, double the current output of 130,000 Bedford trucks and Vauxhall cars a year. The truck assembly line has already been moved from Luton to Dunstable and by next summer nearly all truck activities will be centred there. It is estimated that the doubling of output will be achieved without any increase in the firm's Luton staff of 14,500, while the Dunstable factory will be manned by about 5,000 workers as against the several hundred needed for the small factory as it existed two years ago. To get the trained men they require, Vauxhall Motors are doubling the size of their Luton education and training centre and increasing their intake of apprentices from 54 to 125 a year.

Another concern who are paying attention to **personnel training** are the de Havilland Aircraft Co., whose technical school now has about 2,500 apprentices of various grades and also a number of graduates on post-university courses. Intake is being maintained. To ensure a sufficient labour force of the highest skill, the Hoffmann Manufacturing Co. at their Chelmsford plant encourage skilled staff on attaining the age of 65 to continue working.

Accent is still on **research**. Crompton Parkinson are completing additional laboratories, forming an extension to their existing development buildings at Chelmsford, Essex. Included in the construction work are new open-air testing areas. For the study of various aspects of scientific agriculture, Fisons are building a new research station at Levington, Suffolk, which incorporates a 400 acre experimental farm.

A new observatory to be known as the Mullard Radio-Astronomy Observatory is to be sited near Cambridge by the University following an offer by the Mullard Co. to provide over a period of 10 years the sum of £100,000 to extend the work in radio-astronomy at the Cavendish Laboratory.

Due to be completed next month, a £1.25 million Shell Chemical plant at Shell Haven, Essex, will produce annually 20,000 tons of alkylbenzene—the basic material for most of the popular household detergent powders



in use today. The plant will be the first major **chemical unit** to come into production at Shell Haven. The manufacture of **chipboard** from wood shavings is to be undertaken by British Plimber at a works to be erected at Rainham, Essex.

Manufacturers of **bending machines**, the Tubala Engineering Co. have moved to a new factory at Hainault, Essex, where increased work area will enable production to be stepped up. The firm intend to branch out into additional fields of engineering. Lake and Elliot Ltd., makers of **castings and motor jacks**, Braintree, report output booked for many months ahead. With turnover reaching a new high record, E. K. Cole Ltd. are planning further to extend their Southend factory. A new four-storey block is to be erected to cater for the increasing technical personnel and development projects in the **electronics group**.

**Agricultural engineering** concerns in the area are busy. This year, E. H. Bentall and Co. of Malden, celebrate their 150th anniversary. Rotary Hoes Ltd. have expanded the capacity of their Rainham plant, and production is speeding up at the new **implement works** of Ranaomes, Sims and Jefferies Ltd. at Nacton, Suffolk. Design of the foundry and plans for the plough works there began in 1948. Fully mechanized, the foundry has been in operation for some time, but the transfer of production from the firm's Orwell works in Ipswich will take a further four years to complete.

Capable of an annual output of 500,000 pairs of **children's sandals**, a new plant operated by the Norvic

Shoe Co. at Norwich combines efficient production methods and modern working conditions.

At another Norwich works—that of Laurence Scott and Electromotors Ltd.—new **electronic machine tool control equipment** has just been installed by E.M.I. Electronics. Claimed to be the first of its kind in the country, it comprises a completely automatic milling machine for the production of templates from information perforated on paper tape.

Expansion of their **boatyard** on the banks of the River Waveney is being undertaken by Albatross Marine Ltd., of St. Olaves, Great Yarmouth, who are currently working on an American order for 100 high-speed pleasure motor boats.

A **nuclear power station** is planned by the Central Electricity Authority at Bradwell, at the mouth of the River Blackwater, Essex. Construction is scheduled to begin in 1957 and the station should be in operation by 1960-61. Meanwhile work is proceeding on the erection at South Denes, Yarmouth, of one of the most modern power stations in the country. With the first turbo-alternator installed, it will have a capacity of 60,000 kW when operating next year. This will be doubled in 1957 and later increased to 240,000 kW.

The whole of the sources of water in Essex will be almost fully developed when the £5 million Hanningford **reservoir scheme** is completed next year. Designed to supply families in Basildon and parts of South Essex, it is expected to yield 21.5 million gallons a day.

## EXPORT MARKET SURVEY—Belgium &amp; Luxembourg

GROWTH of the European market, which has in the past six years been expanding faster than the sterling area, holds tradeworthy implications for the British exporter. By June of this year, industrial production in Europe had reached a level about 10 per cent higher than in the corresponding period of 1954; in the case of Germany the rise was nearly 17 per cent. Demand for imported goods has been growing steadily in O.E.E.C. countries as it has in the U.S. and Japan, and current trade between these manufacturing groups shows a gain of some 15 per cent over last year's figures.

To say the least it is unwise to ignore a market, such as Western Europe, which between 1951 and 1954 has taken an additional £104 million worth of British exports. Previous articles in this series have dealt with openings for U.K. products in a number of these growing territories (Turkey—December, 1954; Italy—March, 1955; Portugal and Switzerland—May, 1955; and Scandinavia—August, 1955.) Here the Belgo-Luxembourg Economic Union will be considered, and succeeding issues will contain reviews of market prospects in other O.E.E.C. countries, including the Netherlands and France.



The market offered by B.L.E.U. is by no means a minor one. It is an area of free trade where last year British exports sold to the value of £76 million, with sales of unpolished diamonds making a big contribution along with shipments of machinery, vehicles, tractors, chemicals, electrical equipment and appliances. But although since then B.L.E.U. imports have continued to rise, little improvement has been effected in U.K. sales, and it has recently been suggested that this lack of growth in the market may be indicative of a "decline of competitive potential." There is certainly a strong case for more vigorous salesmanship by exporters.

Twenty fewer British firms exhibited at the Brussels Fair in the spring, compared with 1954, and at the Ghent International Fair in September there were five times as many German companies showing as British. Of the 50 U.K. firms concerned, only one is reported as having sent out a director

to support the sales effort of the local Belgian agent. An opportunity to make a more powerful bid for sales will be presented in 1958 when the Universal and International Exhibition of Brussels will be staged in and around the Centenary Palaces at Heysel.



Electricity at the exhibition is to be supplied by a specially-built atomic reactor with a generating capacity of 10,000kW. Firms making atomic plant and equipment in Britain may well find a growing market for their products in Belgium which, although possessing considerable uranium resources in the Congo, has only coal as a power source at home.

The high level of world demand over the past 18 months has had a stimulating effect on the B.L.E.U. economy which leans heavily on its traditional exports of steel and textiles. Prices have been kept stable, inflationary pressure successfully combated and an early 1954 deficit in current balance of payments turned into a surplus. Exports for the first half of 1955 were 15 per cent above comparable figures in 1954, achieved through increased productivity of the labour force which is, in point of numbers, static. Not unnaturally, in this situation, Belgian industry is cost- and output-conscious, and demand for labour-saving equipment of all kinds, electronic control apparatus, mechanical handling units and instruments for measurement will undoubtedly increase.

A recently-published O.E.E.C. survey of Belgium concluded: "A relatively easy economic situation seems likely to continue during the immediate future, and this should enable Belgium to take the necessary steps towards the solution of its longer term problems." Simply stated, this means that there is a need for a far greater diversification of Belgium's industrial structure. The problem has had to be faced by all Western European manufacturing countries, and it is one which is particularly urgent for Belgium and Luxembourg with their high standard of living. Somehow the emphasis must be shifted from steel and textiles—products that can be turned out by relatively unskilled labour—to the more highly finished capital goods and the new industries of today.

A difficulty here has been the reluctance of the private sector to engage in large-scale capital investment in new industries, and official encouragement may well be required. This trend towards the manufacture of new lines may prove of benefit to British firms seeking to establish plants in Belgium. Competitors are certainly doing so—Philips, for instance, are now building a new musical equipment factory at Hasselt in Limbourg province. Foreign undertakings are on an equal footing with national concerns and can repatriate capital and profits freely.

At the present time considerable Government financial assistance is being given to the construction of new factories and workshops. Encouragement, too, is being given to the construction, purchase and improvement of houses for the middle-classes who are being afforded the special facilities already available to poorer Belgian families. Communications are being improved. The railway line between Antwerp and the Dutch frontier station of Rosendaël—junction with the electrified lines of the Netherlands—is to be electrified. By next spring, with the completion of a new bridge near Vilverde, the port of Brussels will again be accessible to sea-going ships. The opening of a new canal from Nimy to Blaton is the first step in a programme designed to link the Mons area of southern Belgium with Ghent and Antwerp. At a cost of some £4 million, a dry dock is to be constructed at Ostend. Under a new road fund just set up by the Government, the national road network is to be greatly extended and improved.



A major industrial event is the proposed merger between Belgium's two largest steel manufacturing enterprises—John Cockerill, S.A. and Ougree-Marhay, S.A. It has been approved by the High Authority of the European Coal and Steel Community, and the new entity will control steel-making capacity of some 2 million tons annually—40 per cent of Belgian output. The John Cockerill company was named after John Cockerill, of Lancashire ancestry, who in 1817 built iron works at Seraing, near Liege.



## Having a hand in Productivity



IN EVERY INDUSTRY OR TRADE, electrical equipment is the key to modern production methods. There are probably more production-boosting and money-saving devices than you know of. Your Electricity Board can help you and give you sound advice.

They can also make available to you, on free loan, several films on the uses of electricity in Industry — produced by the Electrical Development Association.

E.D.A. are publishing a series of books on "Electricity and Productivity". Four titles are available at the moment; they deal with Higher Production, Lighting, Materials Handling, and Resistance Heating. The books are 8/6 each (9/- post free) and the Electricity Boards (or E.D.A. themselves) can supply you.

**Electricity**  
**a Power of Good**  
**for PRODUCTIVITY**

### One man fires 12,000 dozen pieces a week

*He does it electrically — in a multi-tunnel kiln. There are 16 tunnels and the ware in adjacent tunnels travels in opposite directions so that the incoming ware picks up heat from the outgoing. The ware is pushed through each tunnel in a series of pre-determined steps, controlled electrically. All the operator has to do is to feed the ware into the kiln and take out the finished pieces — 144,000 of them a week. Biscuit firing, gloss firing or decorating, tea ware, dinner ware, tiles or 'fancies' — the electric kiln does it all. Higher output at low heating cost per article is*

**only one of the aids to  
higher Productivity that  
Electricity can bring you.**

The British Electrical Development Association  
2 Savoy Hill, London, W.C.2





It's a bland, benevolent typewriter, the Standard Imperial '66'. It seems to understand that a girl wants her machine to work for her and with her, and not against her. She wants to get off home on the dot, and she wants to know that she will be off on the dot tomorrow, and this day next week, and next year. That spells Imperial '66'.

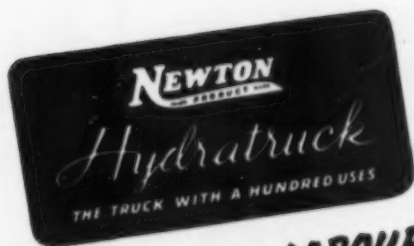


Quick  
work-  
well  
gone

## Imperial typewriters

IMPERIAL TYPEWRITER CO. LTD. LEICESTER AND HULL.

DECEMBER, 1955



**TAKES ALL THE LABOUR  
OUT OF LIFTING**



**HYDRATRUCK  
SOLVES LOADING PROBLEMS  
FOR BRITISH RAILWAYS**  
at Euston, Paddington, King's Cross, etc.

★ **LIFTS HALF-TON NEARLY 5 ft. in 1 MINUTE**

All transport services—rail, road, sea and air—use the Newton Hydratruck to do more work with less effort and in less time than ever before. Cuts out manhandling, delays, breakages, accidents, etc. A handlifter with real power capacity.



Every trade has a use for the  
**'HYDRATRUCK'**  
Patent No. 647817 World Patents Pending

Send for  
illustrated  
technical  
brochure  
No. 235/F1



TAS



## ... making fast at Vauxhall...

We are proud to announce that on  
2nd January, 1956 we shall be installed  
in our new premises at

**THE PACKAGING TAPE CENTRE,  
VAUXHALL BRIDGE,  
LONDON, S.E.11**

Telephone: RELiance 7600 (10 lines)

Conveniently situated in the heart of London we shall be able to offer even greater facilities to our customers. Our story of nearly 50 years trading is one of steady growth and even the total destruction of our premises during the war did not check our progress. Now we can justly claim that the first name in tape is the last word in tape... GOSHERON.

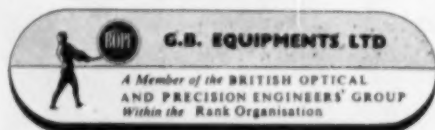
# Gosheron Tapes

JOHN GOSHERON & CO., LTD., LONDON



## The redundant bloodhound

Bloodhounds cannot track down snags in the day-to-day running of your Organisation. But film can! Attracting and retaining attention and clarifying your every message, film brings added impact to your staff recruitment drives... gives new meaning to your safety measures... tells your sales story to the world. You can make your own training and machine-part assembly films and you can hire, from the G.B. Film Library, many outstanding films dealing with specific problems in Industry today. To learn about the equipment you need, please send the coupon for details.



Please ask your secretary to attach this coupon to your letterhead

TO: The Industrial Service Division, Dept. 8/12/51  
G.B. Equipments Limited, Mortimer House, 37-41 Mortimer St.  
London, W.1. Telephone MUSeum 5432.

Please send, without obligation, leaflets describing G.B.-Bell & Howell cine-cameras and the Filmosound '622' projector and details of films available from the G.B. Film Library.

'Barco' manufacturers for over 60 years of high quality carbon papers and ribbons. 'Barco' manufacturers for over 60 years of high quality carbon papers and ribbons. 'Barco' manufacturers for over 60 years of high quality carbon papers and ribbons.

'Barco' manufacturers for over 60 years of high quality carbon papers and ribbons. 'Barco' manufacturers for over 60 years of high quality carbon papers and ribbons.

'Barco' manufacturers for over 60 years of high quality carbon papers and ribbons. 'Barco' manufacturers for over 60 years of high quality carbon papers and ribbons.

'Barco' manufacturers for over 60 years of high quality carbon papers and ribbons. 'Barco' manufacturers for over 60 years of high quality carbon papers and ribbons.

'Barco' manufacturers for over 60 years of high quality carbon papers and ribbons. 'Barco' manufacturers for over 60 years of high quality carbon papers and ribbons.

'Barco' manufacturers for over 60 years of high quality carbon papers and ribbons. 'Barco' manufacturers for over 60 years of high quality carbon papers and ribbons.

'Barco' manufacturers for over 60 years of high quality carbon papers and ribbons. 'Barco' manufacturers for over 60 years of high quality carbon papers and ribbons.

'Barco' manufacturers for over 60 years of high quality carbon papers and ribbons. 'Barco' manufacturers for over 60 years of high quality carbon papers and ribbons.

'Barco' manufacturers for over 60 years of high quality carbon papers and ribbons. 'Barco' manufacturers for over 60 years of high quality carbon papers and ribbons.

'Barco' manufacturers for over 60 years of high quality carbon papers and ribbons. 'Barco' manufacturers for over 60 years of high quality carbon papers and ribbons.

'Barco' manufacturers for over 60 years of high quality carbon papers and ribbons. 'Barco' manufacturers for over 60 years of high quality carbon papers and ribbons.

'Barco' manufacturers for over 60 years of high quality carbon papers and ribbons. 'Barco' manufacturers for over 60 years of high quality carbon papers and ribbons.

'Barco' manufacturers for over 60 years of high quality carbon papers and ribbons. 'Barco' manufacturers for over 60 years of high quality carbon papers and ribbons.

'Barco' manufacturers for over 60 years of high quality carbon papers and ribbons. 'Barco' manufacturers for over 60 years of high quality carbon papers and ribbons.

'Barco' manufacturers for over 60 years of high quality carbon papers and ribbons. 'Barco' manufacturers for over 60 years of high quality carbon papers and ribbons.

'Barco' manufacturers for over 60 years of high quality carbon papers and ribbons. 'Barco' manufacturers for over 60 years of high quality carbon papers and ribbons.



*Let's make a date...*

*said somebody or other in pre-history  
—and so the first calendar was born*

Seriously, however, the means of recording the passage of time was one of the primary necessities in the life of primitive man.

Even today we could not order our lives without the help of a calendar or diary—and what better than a Zodiac calendar or diary?

*Bemrose advertising calendars and diaries will help you to sell your products as well as earning you the gratitude of the recipient.*

## BEMROSE & SONS LTD

MIDLAND PLACE  
DERBY (49291)

AFRICA HOUSE  
KINGSWAY  
LONDON W.C.2  
(HOLborn 8871)

*We take pride in our  
wrapping section, advertising  
catalogues and commemoration  
booklets.*

Associated with Alf Cooke Ltd., and Morbury Printers Ltd., as Universal Printers Ltd.

**"Yes, he said  
I needn't take  
on extra staff  
after all..."**

"YOU KNOW when our orders were going up and up? Our accountant told me we might have to take on more staff. So we decided to call in the Burroughs man. It couldn't do any harm and his advice was free... As it is, I'm more than glad. He went into the details with our accountant, then showed us how we could mechanize our accounting at low cost—and save a lot of overtime. He certainly knew his job..."

The Burroughs man is always at your disposal without cost. He is an experienced adviser on *all* accounting and record-keeping systems, and well qualified to work in co-operation with your accountant and auditor.

He has a complete knowledge of mechanized accounting. But he won't propose changing your accounting methods just to suit certain machines. Rather, after a full analysis of your problem, he will make proposals for a rapid, economical and *workable* solution.

If he does recommend a new system, he will prepare a detailed plan for it and help you get it working smoothly. He will make sure



you continue to get *full* benefit from any Burroughs machine you install.

**Whatever your business**, large or small—if you have an accounting problem, the Burroughs man can help you solve it. Burroughs make the world's widest range of Adding, Calculating, Accounting, Billing and Statistical Machines and Micro-


film Equipment. Call in the Burroughs man as soon as you like—you're committed to nothing and his advice is free. You'll find the number of your nearest Burroughs office in your local telephone book. Burroughs Adding Machine Ltd., Avon House, 356-366 Oxford Street, London, W.1.



One Burroughs man solved this problem. The Phonotas Co. Ltd. (weekly telephone cleaning and sterilizing service) have 80,000 separate accounts, and until recently, in London and in provincial offices, figures were copied by hand. As this led to errors and delays, they called in this Burroughs man, Mr. J. G. Winterbottom (left). He showed Phonotas how, with just two typewriter-accounting machines and two abbreviated-description accounting machines, they could halve their accounting time, and obtain up-to-date figures—all without extra staff.

**FOR EXPERT ADVICE ON**

**BUSINESS SYSTEMS CALL IN**

**THE  urroughs MAN**



# COMMENT

## HOW MUCH ON RESEARCH ?

ONE question which came very much to the fore at the recent conference of the British Institute of Management on "The Impact of Science on Management in the Future," was the problem of deciding how much to spend on research. In a panel discussion, Dr. M. A. Matthews of Shell Petroleum Co. pointed out that chemical firms did not expect to maintain their position unless they spent three per cent of their sales revenue on research. To get ahead, they needed to spend more.

D. A. Oliver, director of research, B.S.A. Ltd., stressed the harmful effect of stringent budgeting for research, by pointing to his own wartime experience. He said that when the war started, he was given a free hand to do any development work which would contribute to the war effort. In the event he "spent only about 10 per cent more than normally, felt 100 per cent freer, and work went on three times as fast."

No startling conclusions were reached on the question of how to decide whether money is being spent on the right research, and whether an economic return is ever likely to be obtained. Research can be so uncertain that the answer to a particular problem may be just around the corner or five years away. However, it was generally agreed that firms which really believed in research, and did not merely maintain a laboratory for prestige reasons, did not find this a major problem. Most scientists were not really long-haired, and the main thing was to keep a research director sufficiently in touch with the day-to-day problems of his company, so that he would automatically turn a critical eye on all projects, weighing up their possible value to the company.

★ ★ ★

OUTPUT of British office equipment, excluding furniture and general fittings, reached a new record value of £18.9 million during the first six months of this year—an increase of £1.8 million over the corresponding figure for 1954.

DECEMBER, 1955

Exports for the first nine months of the year were worth £10,952,961 as against £9,024,704 in the same period in 1954. Exports to Canada showed the largest increase—over £200,000 more than last year.

★ ★ ★

## NO SALESMEN-SCIENTISTS

ANOTHER question discussed at the B.I.M. Conference, Harrogate, was whether scientists and engineers should be used in the sales forces of companies selling technical products. Dr. C. G. Addingley, director and chief chemist of British Belting and Asbestos Ltd., said that in his experience the technically trained man who went out as a sales representative was in danger of giving off-the-cuff answers to problems which should really be referred back to the company's technical service. If he was out selling most of the time, he could not hope to keep up-to-date on technical matters, and so he could do the firm damage.

Dr. H. A. Thomas, head of the Use-development Organization, Courtaulds Ltd., agreed that in addition to the dangers, there was also a considerable waste of talent in using scientists as salesmen. He felt that what were needed were salesmen with an appreciation of technical problems, not technical salesmen.

★ ★ ★

THE 44th British National Business Efficiency Exhibition will be held next year at Bingley Hall, Birmingham, from February 20 to 25.

★ ★ ★

## EYE-CATCHING

THE tenth annual report of the Council of Industrial Design shows that the importance of good design is becoming more widely accepted both by manufacturers and the public. There has been greater demand for inclusion of new articles in the *Design Review*, and for introductions to designers listed in the Council's Record.

During the past year the Council have prepared displays of well-designed

goods for seven overseas exhibitions. But the appearance of goods themselves is not the only way of catching the eye of foreign buyers. "Far too many of our exporters still pay insufficient attention to the visual appeal," said Derek Walker-Smith, Parliamentary Secretary to the Board of Trade, at a recent conference on "Photography in Industry."

Mr. Walker-Smith hoped that manufacturers would learn that "at very little more trouble and expense they can help to present abroad a more vivid picture of Britain, virile, inventive and right up-to-date." Exciting photography might not itself be able to reverse an adverse trade balance, "but it is a step in the right direction, and one of which some of our competitors are already fully aware." The opening article of next month's *BUSINESS* will show what some British exporters are doing to fight foreign competitors, particularly the Germans.



A. R. CARRUTHERS

*Believes in Importance of Design*

One believer in the importance of good design is A. R. Carruthers, who has been elected president of the Office Appliance and Business Equipment Trades Association for 1955-56. His many years with Addressograph-Multigraph Ltd. have convinced Mr. Carruthers that in the field of office equipment, as in others, "a good designer will study the use to which a product is put, and thus make it easier and more attractive to use." The new vice-president of the association is G. L. Mercer of Lamson Paragon Ltd.

★ ★ ★

## DOES IT SINK IN ?

THE article on pages 80 to 84 of this issue describes methods of giving employees a complete picture of their company's operations. Is such information really appreciated and remembered ?



WHY IS THE

**Emidicta**

**DICTATION SYSTEM**

### SO WIDELY USED ?

**FACT 1** The Emidicta dictation system is specifically designed to speed the work by speeding the letter.

**FACT 2** The Emidicta dictation system includes a concise range of models to meet all normal needs.

**FACT 3** The Emidicta dictation system has been consistently proved a prudent investment, not an expensive luxury.

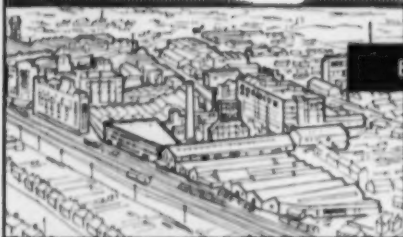
**FACT 4** The Emidicta among all other dictation machines is notably uncomplicated.



The Emidicta Dictation System is that most often selected by business organisations after careful comparisons, and the roll of notably progressive firms using it is growing daily — a fact which surely speaks for itself.

### BACKGROUND TO A DICTATION SYSTEM

The Emidicta has the finest possible 'sound' pedigree — it is made by E.M.I. ('His Master's Voice', Marconiphone, Columbia, etc.) and is the outcome of half a century's experience in sound recording and reproduction.



**E.M.I. SALES & SERVICE LTD**

**Emidicta Division** (Dept. 4), "His Master's Voice" Showrooms, 363-367 Oxford Street, London, W.1. Telephone: MAYfair 8597. GROsvenor 7127/8.  
Northern Branch Office: Regent House, Cannon Street, Manchester (Deansgate 2315)  
Also Sales Offices: Birmingham (Midland 5821), Glasgow (Douglas 6061).

R.M.131

N. Corah (St. Margaret) Ltd., Leicester, hosiery and knitwear manufacturers, recently investigated this question. Their survey was concerned principally with the news of company profits, production and trading results which had been published in the house magazine and local newspapers, or had been discussed at joint consultation meetings.

About 160 workers—five per cent. of the total labour force—took part. They were interviewed in groups of 20, and their answers to a number of questions were analysed. It appears that the published facts had been ignored completely by between 20 and 30 per cent of the women and 9 per cent of the men. Moreover, few of the others remembered actual figures. When asked factual questions, only 26 per cent of them gave three or more correct answers out of five, and only 6 per cent scored four or more.

One fact was retained, however. Fifty-four per cent stated correctly that taxation swallowed up the largest share of the profits. This, in itself, might be regarded as a notable achievement of the company's communications system!

The answer to a question concerning a pictorial analysis of the sales £ which had appeared in the house magazine, disclosed that 12 per cent of the men and 21 per cent of the women had failed completely to grasp the significance of the figures involved. Nevertheless most of the employees (86 per cent) favoured the idea of being given financial information.

Asked to state which types of information were of particular interest to employees, 52 per cent mentioned new developments and the general trade position. Twenty-six per cent declared that they were equally interested in all types.

From their analysis of the replies, the company drew two main conclusions: (1) that too much detail may be confusing; and (2) that employees want to know general facts, illustrated by a few figures.

★ ★ ★

Corahs have been running a well-planned and highly successful joint consultation scheme (described in the February, 1955 issue of *BUSINESS*, page 105) for more than five years. They also publish much news of company activities in their house magazine.

The results of their survey emphasize that "selling" a firm to its employees is a hard job. But it is not unrewarding.

DECEMBER, 1955

## People Products Places-I

**LOOKING AHEAD**—Encouraged by the fact that more than 1,100 U.S. and Canadian buyers visited the British Industries Fair in 1955, Sir Ernest Goodale, chairman of B.I.F. Ltd., recently made a "Come to Britain" tour of the North American continent. Next year's Fair opens at Earls Court on February 22, and at Olympia and Castle Bromwich on April 23.



### ALL-PURPOSE PLASTIC—

The refrigerator door shown here is only one of many uses to which *Styron*, a new plastic material now being manufactured in Britain, can be effectively put. Among the advantages claimed for the material are low weight, dimensional stability, water resistance and excellent electrical properties.

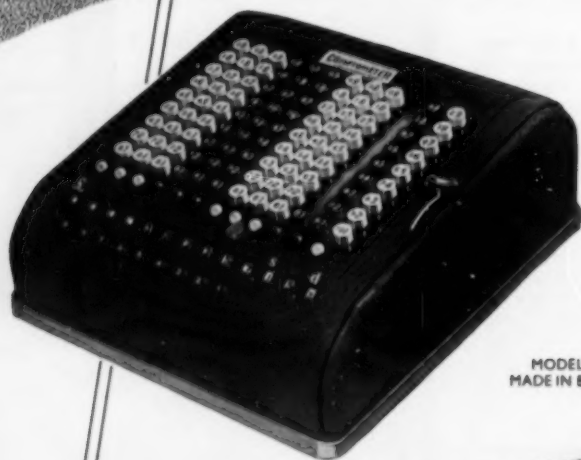


**WORKSHOP ON WHEELS**—To help maintain a high rate of progress on Iran's new 340-mile pipe-laying project, Costain-John Brown Ltd., the contractors, are using several of these "mobile laboratories," specially designed for them by Pilgrim Mobile Units Ltd. The laboratories are divided into three compartments, a darkroom, an inspection room and a workshop-cum-office.

P.P.P. Continued ▶

If it's not made  
by Felt & Tarrant  
it's not a  
Comptometer

HIGH · SPEED · ELECTRIC · ADDING · & · CALCULATING · MACHINES



MODEL 992  
MADE IN BRITAIN

THE  
**COMPTOMETER**

Regd. Trade Mark

SALES  
SCHOOLS  
SERVICES

Employment  
Depts. & Training  
Schools in every  
big town

and the fact that a minority of employees completely fail to grasp the significance of the facts and figures being disseminated, is not cause for despair. For in any group there are only a certain number of "opinion leaders." These will generally understand the facts presented, and even if their previous opinions have been at variance with the facts, reliable information disseminated over a period of time is bound to have an effect on their views.

★ ★ ★

**T**HE newest and most exclusive of management organizations, the Institute of General Managers, holds its second annual dinner in London on Friday, December 9. The Institute is exclusive in that membership is open to managing directors and general managers only, but it is not exclusive geographically. It has representatives in nearly all the countries of the Commonwealth and Empire, and it is fitting that Lord Bruce of Melbourne, former Prime Minister of Australia and chairman of the Finance Corporation for Industry Ltd., should be the principal guest of honour at the dinner. Top executives desiring information about the Institute should write to The Registrar, The Institute of General Managers, 86 Eccleston Square, London, S.W.1.

★ ★ ★

**O**NE of the subjects recently investigated by the Oxford University Institute of Statistics is the age of small manufacturing firms. A pilot survey of 85 firms in the Birmingham area showed that the majority, or 46 of them, were founded before 1919, another 17 were founded between 1919 and 1930, 7 between 1930 and 1939, 5 during the last war and 10 since the war. The authors of the survey suggest that if their figures are typical of industry as a whole, then they "would appear to indicate quite a high rate of new entry."

However, it is worth noting that proportionately more firms were founded after the first world war and survived the depression, than were founded after the second world war. If allowance is made for depression casualties, it seems that the rate of founding of new firms after the first world war was even higher.

Not all the firms, of course, have remained in the same hands since foundation. When proprietors were

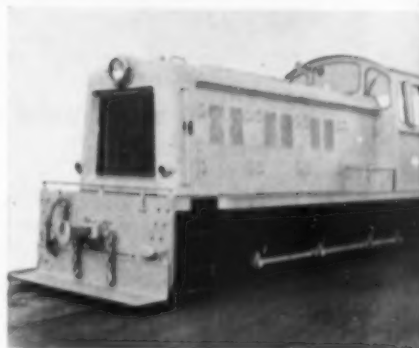
DECEMBER, 1955

## People Products Places-2

**HELP YOURSELF**—Self-service techniques are still gaining in popularity. Latest idea is McKay Ltd.'s "shirt dispenser," which enables sales staff to sell twice as many shirts in half the time during rush periods. Popular sizes are placed in the stands at the top, and those in less demand in the glass-fronted drawers beneath.



**BOUND FOR DOWN UNDER**—Seen here is one of the 17 diesel locomotives ordered by New Zealand Government Railways from W. G. Bagnall Ltd. of Stafford. Worth more than £230,000, the order was received after W. A. Smyth, the company's managing director, had made a flying visit to New Zealand to study local conditions and requirements.



**TAKING THE STAGE**—One way of getting valuable publicity is by organizing a stunt which makes the headlines. The Roads Campaign Council, for example, recently hired a 100-year-old stagecoach to deliver their petition for improvement of roads to Parliament and, at the same time, to emphasize their contention that most British roads are not fit even for horse-traffic. An article on Editorial Publicity appears on page 75 of this issue.

P.P.P. Continued ▶



# FIRE!...

... the **TR** **ALARM SYSTEM** pinpoints it  
**IMMEDIATELY**

No limit to the number of alarm points.

Can be linked with an internal telephone system.

General or restricted alarm as required.

The location of outbreak is immediately registered on the Central Indicator Panel.

Installed and maintained on a rental basis.

Maintained at peak of efficiency.

*The installation of TR fire alarm systems conform in all essential details with the recommendations of the British Standard Code of Practice for electrical fire alarms. Special fire alarm installations can be fitted to meet the requirements of Hospitals.*

£26,154,000—Twenty-six million pounds is the cost of damage caused to industrial premises every year through fire—add to this loss of production and plant, and it will be seen that the necessity for an efficient and effective fire alarm system in industrial premises is very real indeed; quite apart from the Factories Act and the accepted responsibilities of employers toward their employees.

An efficient fire alarm system must pinpoint the location of the outbreak and give immediate warning so that the fire can be dealt with promptly before it takes a firm hold. The TR Alarm System—which is available on a rental basis—does this, and because it has to be regularly and efficiently maintained as a part of the rental contract, its ability to be effective at all times can be relied upon.

The long and varied experience of TR Consultants and Engineers in the provision of fire alarm systems is freely at your disposal whether your problem applies to an existing building or one that has only reached the planning stage.

Write to arrange a consultation now—you never know where fire will strike next.

**Telephone Rentals**  
LIMITED  
OPERATING **TR** SERVICES

22 KENT HOUSE, RUTLAND GARDENS,  
KNIGHTSBRIDGE, LONDON, S.W.7.

Telephone: Kensington 9201.



asked about the duration of present ownership, 16.7 per cent stated that it dated back before 1919, another 16.7 per cent went back to the period 1919-30, a further 20.2 per cent dated back to the period 1930-1939, 16.7 per cent dated back to the last war and 29.7 per cent have changed hands since the war.

★ ★ ★

**THE** Institution of Production Engineers have followed up their successful conference on "The Automatic Factory" by setting up a committee to investigate more fully the implications of automation, particularly its effects on human beings. Chairman of the committee will be A. F. Kelley, director and general manager (manufacturing), Aero Engines Division, Rolls-Royce Ltd., Derby.

★ ★ ★

#### METHOD STUDY

**A** VALUABLE antidote to the tendency to regard work study as solely time study with the consequent "bonusing" of employees, is provided by a new publication "Outline of Work Study—Part II: Method Study."\* This goes systematically into the procedure for investigating working methods, with a view to improving them, and the six stages described in detail are: Select the work to be studied (clearly it must be something where a worthwhile gain could be made); record all relevant facts; examine the facts critically; develop the most practical, economic and effective method; install the method as standard practice; maintain that practice by regular routine checks.

The booklet is well illustrated by time charts, flow charts and other methods of recording procedures prior to improving them.

\*British Institute of Management, 7a, 6d.

★ ★ ★

**BRUSSELS** is already preparing for its World Fair, to be held in 1958. The first of a series of posters printed in six sizes and eight languages is now being sent round the world. It is said to portray "Humanity—the kneeling figure inside the globe—looking upon its work. . . . Though kneeling it seems ready to rise again." This may suggest that it is not too early for potential British exhibitors to start rising to the occasion.

DECEMBER, 1955

## People Products Places-3



**SEEING FOR THEMSELVES**—One way of promoting confidence among shareholders is to focus attention on the company's range of products. This policy was adopted for the first time at the annual meeting of the National Canning Co.—parent of the Smedley Group—where more than 100 cans, packs and bottles were on display.



**QUICK PROMOTION**—Personal experience of American and Continental production techniques should be a big help to John Tayson in his new capacity as works director of Cimex-Fraser Tuson Ltd., floor maintenance engineers. Mr. Tayson, who is only 32, served his apprenticeship with Standard Telephones & Cables, and later worked for a time with the Austin Motor Co.



**GOING TO THE TOP**—This Fleet St. window display symbolizes BUSINESS as "The Journal of Management in Industry." With a circulation which has doubled in seven years, over 90 per cent of its copies go to Britain's commercial and industrial leaders. Furnishings for the display were lent by K. Harvey's Office Equipment of New Bridge Street.

# The machine THAT DOES A complete mechanized accounting job for **£350**



On our special deferred terms you can install this machine immediately for a monthly cost lower than that of one junior clerk.

Write or 'phone for our fully explanatory booklet "Complete Mechanized Accounting for a Capital Outlay of £350", quoting reference, 38/Dc.

Sales & Purchase Ledger Posting

Pay Roll & P.A.Y.E.

Stores Recording

Costing and all other Accounting  
Records

**underwood**  
**Sundstrand**

PORTABLE ACCOUNTING MACHINE

**UNDERWOOD BUSINESS MACHINES LIMITED**

4-12 New Oxford Street, London, W.C.1. Tel: CHAncery 3131

FACTORY: BRIGHTON, SUSSEX. SALES & SERVICE EVERYWHERE

# TALKING POINTS

## Free Trade — How Vital to Britain ?

*The following correspondence took place, before the Autumn Budget, between the Chairman of a commercial enterprise and the Editor.*

The Editor, BUSINESS  
Sir,

I was very interested to see in your "Survey and Forecast of Business Conditions" for September the following:

"There are reasons for believing that it will take some time for the British economy to recover from the present position of excessive boom and unbalance in external trade. One cause of slow progress is the strong disinclination on the part of the Government to impose import restrictions."

I venture to suggest that stopping imports reaching the British home market would have the effect of creating shortages and would result very quickly in further rises in price and further inflation. Furthermore, you do not indicate how our customers abroad would be able to continue to purchase British exports if we cut down on imports.

Yours faithfully,

W. A. N. JONES,  
Chairman and Joint  
Managing Director,

W. H. Jones & Co. (London) Ltd.,  
London.



To Mr. Jones  
Sir,

The main object of the credit squeeze is to restrict imports, and therefore I feel one cannot speak too harshly against the direct restriction of imports, when present policy is to restrict them indirectly. The post-war Labour Governments made the mistake of placing direct restrictions on imports without taking steps to stop inflation within the country.

The present Government is fortunately trying to stop inflation, knowing that if they are successful they will indirectly curb imports. But one of the causes of the recent weakness of sterling was the fall in confidence in the pound, due to excessive imports. I feel that any direct restrictions on imports which had helped to conserve gold during the period it takes for the credit squeeze to become effective, would

have helped confidence in sterling.

At present world trade is expanding rapidly but Britain's share is decreasing. So far as I know, there has been no retaliation against Australian import restrictions. In present world conditions our fear is not that others may retaliate against our import restrictions, but that others will take greater advantage than we do of trade liberalization. Between 1950 and 1954, the volume of British exports rose by only 8 per cent compared with a 29 per cent increase in world trade during the same period.

I would like to believe that the economy could be controlled by credit restrictions, but until the problems of Government expenditure and wage inflation are tackled, I feel that we may have to resort temporarily to other less desirable measures.

Yours faithfully,

G. H. COPEMAN,  
Editor.



To the Editor  
Sir,

You refer to the main object of the credit squeeze as being to restrict imports, but so far as I am aware, this has not been announced by any Government spokesman, nor am I aware that it is in fact the object behind the credit squeeze. I would have said that the object of the credit squeeze was, in the non-Government sector, to restrict consumption on credit of goods and services of any description, and to suggest that one can divorce conditions at home from the overseas trade of a country like ours, I suggest, is quite incorrect.

Goods are only imported into this country if they are cheaper or more desirable than a locally produced article, and to keep them out, therefore, must bring about higher prices at home by limiting the supply of the article in question. This applies equally to raw materials, to semi-manufactured articles and to consumer goods, and in this connection I would point

out that the finished product of one trade is the raw material of another.

There is a campaign going on at the moment to restrict imports of Canadian plastic powder which is used by many manufacturers in this country. The reason given for this is to reduce expenditure of Canadian dollars because there is now a factory in this country which can produce. The fact, however, is that the cost of the British powder is likely to be considerably higher than that of the Canadian article, and I may say quite definitely, therefore, that if the import of the Canadian powder is stopped or restricted everything that is made by the manufacturers forced to use the English powder will be bound to go up in price. Such instances happen wherever tariffs have to be imposed, and if you really think that such a state of affairs helps to earn our living abroad I am afraid that I for one do not agree with you.

If we want a greater share of expanding world trade the answer is quite simple. We must allow our manufacturers to obtain their materials at cheapest world prices so that they may stand in competition with their competitors in other manufacturing countries abroad.

The other thing which has to be done is to work hard and urgently towards conditions under which the pound sterling can be made freely convertible into any other overseas currency without any strings attached.

Incidentally, I have noticed with interest the proposals of the West German Minister of Commerce for meeting inflationary conditions which are emerging in Western Germany. No doubt you will have seen that he advocates a little taste of free trade as part of the medicine. I suggest that a few spoonfuls out of the same bottle might work wonders over here.

Yours faithfully,

W. A. N. JONES.



(I agree that the object of the credit squeeze is to restrict consumption. But this has only become necessary because of an unfavourable trade balance. Therefore the purpose of the credit squeeze is to improve the trade balance by restricting imports and also forcing more goods to be exported.)

I appreciate that, as in the case of plastic powder, if one firm were given a monopoly of the British market, the restriction of imports might cause prices to rise. But we cannot say this about imports generally without accusing British industry of being highly monopolistic.—Ed.)

Introducing **2** more  
entirely **NEW** OFFICE PACEMAKERS

THE ENTIRELY NEW

*Live Keyboard*

Adding-Lister



Unique—every amount key its own motor bar. Absolutely no unproductive hand-motion. Greatest ever speed. Greatest ever ease (1 or 2 totals). The first radical development in adding machine design since the introduction of electric operation.

THE ENTIRELY NEW

Multi-purpose '158'

Bookkeeper



A versatile, highly automatic general-purpose bookkeeping machine designed specifically to bring the benefits of fully integrated machine accounting well within the financial compass of small businesses. In all respects, a remarkable production.

Demonstrations arranged to suit your personal convenience. Kindly write



or 'phone: The Accounting and Adding Machine Division of

THE NATIONAL CASH REGISTER COMPANY LTD. 206-216 Marylebone

Road, London, N.W.1. PADDINGTON 7070. (Branches in all principal business centres)

★ Your advertisements and salesmen have more pull if the prestige of your firm has been built up by editorial publicity. Here are five case-histories, three of them describing the techniques and methods of successful press officers, the other two describing the work of public relations consultants.

★ In many cases, small firms have more to gain from editorial publicity than large firms. This article therefore has special significance for those who at present "handle their own publicity."

★ Of equal importance to a reputation with the outside public is a good reputation with employees. This article is followed by one on "How to Maintain the Goodwill of Employees."



## How to Build Prestige for Your Firm

By the EDITOR

TO the businessman whose sales graph is going up, who advertises his products and believes firmly in them, there can be few things more disconcerting than the problem of obtaining what he may regard as a fair measure of editorial "support." He can be rather hurt when his firm's magnificent achievements or the speech he made on a festive occasion gets hardly a mention in the Press.

The first thing he needs to understand clearly is the essential difference

between editorial publicity and advertising. D. K. Winslow, in his recent book on "Editorial Publicity,"\* defines "advertising" as "the making of an announcement with the direct object of selling." He defines "publicity" as "the dissemination of information with the immediate object of keeping a firm, its members, its services, and its products—each or all—frequently before the attention of other persons, although

\*Pitmans, 8s. 6d.

selling may be, and very often is, the ultimate object."

There is a further essential difference between advertising and publicity. When a firm pays to advertise its products, that is a token of the sincerity of the firm—the eagerness of the firm—to put across a sales message to the readers. On the other hand, when a firm obtains editorial publicity, that is a token of the sincerity of the editor—the eagerness of the editor—to tell the readers something which they are anxious to hear. And there can be a world of difference between what the firm wants to say about its products and what the readers of a particular journal want to read.

Editors are in business selling information, etc. to their readers, just as manufacturers are in business selling products. It follows that the head of a business firm cannot expect to understand how to get editorial publicity, until he can mentally sit in an editor's chair and appreciate what the editor's market is. What are the readers willing to buy?

When he can do this, he can ask himself: "Is there some piece of news regarding my firm, its products, or its employees which the readers of some





**If you expect your good news to be published, you should be frank about your bad news. This avoids suspicion, speculation and unfriendly headlines**

newspaper or journal would be willing to buy?"

Publicity is complementary to advertising. It builds prestige in a way that advertising cannot. An advertisement comes direct from the advertiser, and directly or indirectly tells the customer how good he is. Publicity comes via the editor, and implies that the editor—an independent person—is recommending the firm. Publicity makes advertising more effective.

### Scope of the Article

This article concentrates on how to obtain editorial publicity, although it is recognized that the prestige of a firm may be built up by a wide variety of methods, which all come within the professional field of "public relations."

Sitting in the editorial chair, one has ample opportunity to discover which are the firms with good press relations. Some firms are good because they employ full-time press officers, others are good because they engage professional public relations firms to look after their publicity. Still others are good even though they cannot afford either of these facilities. They happen to have a leading executive with a flair for publicity. It is proposed to describe here the work and techniques both of full-time press officers and of public relations firms acting for clients.

Some of the best press officers, and some of the best public relations firms will not discuss their work openly, because the success of their efforts depends largely on the public not being conscious of what they are doing. Therefore some of the leading publicists interviewed for this article have made it a condition that their stories should be anonymous.

Some industries, such as commercial aviation and motor car manufacturing, are of such absorbing interest to the public that for firms in these industries editorial publicity may be even more important than advertising. Of course advertising will cost them more, but more staff may be employed on preparing Press copy than on preparing advertising copy. In firms such as B.O.A.C. and Ford Motor Co., publicity departments of 50 or more are not unknown—although some of these will be engaged on other publicity work, apart from editorial.

There are also firms such as Imperial

Chemical Industries which give technical advice to customers, and which for this reason alone need exceptionally large publicity departments. However, this article is not concerned with such exceptions, but rather with the publicity problems of firms whose products or services are not in the limelight and do not need to be accompanied by an excessive amount of technical information. Many such firms—even the large and famous—have just one or two publicity officers, with one or two secretaries.

For The  
Smaller  
Firm

Even this, of course, costs a few thousand pounds a year at least. What can the smaller firm do on a more modest scale? One public relations officer who works on his own for several clients, estimates that he cannot provide a worthwhile service for less than £600 a year. There are consultants who will quote a fee as low as £250, but they tend to have a high turnover of dissatisfied clients. The mere mechanics of sending out Press statements and photographs can cost hundreds a year, and this can be largely a waste of time unless done by someone with successful experience in journalism who could command a good salary elsewhere.

However, it is difficult to do much advertising on a budget which does not run into thousands, and the point is fairly made by P.R. consultants that small firms often have most to gain from editorial publicity—more than large firms which tend to have bureaucratic rules about what may be disclosed to the Press. In the small firm there is often far more interesting activity—more stories—and in recent years some firms in new fields such as electronics have built up national and even international names by spending just a thousand or two a year on editorial publicity.

### Press Officers

**Case History 1.** One well-known firm with retail outlets throughout the country employ a press officer (Mr. X) who gains much of his success through being a journalist, with wide contacts among fellow journalists.

He is a member of the Press Club,

and has a most likeable personality. He is not an unsuccessful journalist turned press officer. On the contrary, his former experience and success have enabled him to command a high salary in his present work. He is worth it to his firm, for he gets them a regular flow of mentions in national newspapers, the local Press, the trade and technical Press and popular magazines.

Mr. X emphasizes the importance of studying not only the type of reader to whom papers are trying to appeal, but also the distinctive style of the paper. Every story he sends out is written specially for the paper concerned.

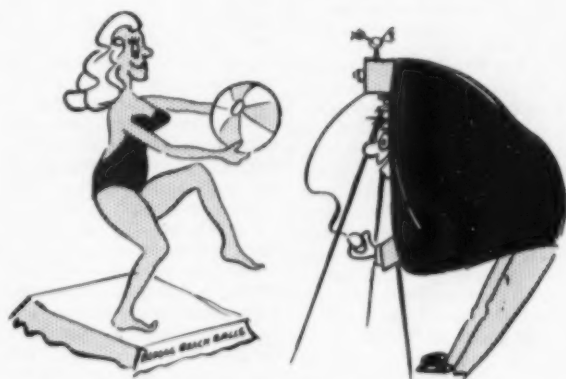
He has written as many as 27 varieties of the same story, in order to ensure that papers with overlapping readerships do not get the same story.

He also emphasizes the importance of not overdoing the name of the firm when writing a story for the Press. If the name occurs logically once in the text, it is unlikely that any editor will strike it out. In a 1,000-word article it would be most unwise to mention the name of the concern more than twice. If the name is mentioned too often, the editor will regard the article as a pure puff for the company and strike the name out altogether—perhaps not even use the story.

Mr. X maintains a round-the-clock information service. He believes firmly that information, available to the Press at any time, builds goodwill for the day when his own story breaks. Newspapers do not mind making long-distance calls at any hour if this enables them to check the facts of a story. If the subject is one on which Mr. X is known to be quite an authority, then the newspaper will not hesitate to phone him up. For every important item of information he keeps a duplicate copy of the relevant documents in his files at home.

Mr. X is also well aware of the value of the indirect approach. A story which helps his firm does not necessarily go direct to the Press from him. To quote one example, a discussion on television one night deeply concerned the interests of his employers. He did not telephone the Press giving his firm's views on this subject, as they might have regarded the views of one particular concern as hardly newsworthy on such an important topic. But he did open his files at home and get out a lot of important facts and figures correcting a misleading impression given on TV. He then phoned these facts and figures to his appropriate trade association, who were most grateful to have them, so that they

## If You Cannot Write . . .



At Least You Can Get a Good Picture Taken

could issue an immediate statement to the Press.

The authority of this association is such that their statement was printed very widely in the Press next morning, but nobody except Mr. X and the association knew that the facts and figures emanated from a press officer who was looking after his own firm's interests.

Mr. X does not have to use his bedside telephone every night, but on one occasion when an important topic was in the news, he handled 39 calls in two nights at home, mostly between 10.45 p.m. and 2 a.m.

For a press officer to do this kind of work successfully, he must have the absolute confidence of his firm, who must be prepared to tell him not only their policy decisions but enough of the underlying reasons to give him a full grasp of the situation so that when he comes to give his story to the Press and explain it in answer to questions, he knows just where he stands.

**Case History 2.** We will now have a look at Mr. Y, who is press officer for a well-known firm manufacturing domestic equipment and with area sales representatives throughout the country. Mr. Y uses these area sales representatives as local press officers. He encourages them to get to know the local newspaper editors, and they carry out press publicity under his strict guidance whenever the company holds local displays and demonstrations of interest to housewives. This combination of central publicity skill and local

contact produces spectacular results in the way of large volumes of Press clippings.

The company subscribes to a press cutting agency not only for clippings about their own activities, but also for those of their competitors, to compare results. Mr. Y emphasizes that local newspapers and the trade and technical press are very interested in news of new products, provided they are not written up "puffily."

## New Products

He even sends stories about new products to the national press, although he does not expect many of these releases to be used. But they sometimes put an idea into the mind of a correspondent receiving them, who subsequently develops a feature story around the new product and its impact on life. Mr. Y regards pictures as being particularly important to the national press, for even though a newspaper may not acknowledge the name of the company, many readers will recognize the distinctive design of the company's products.

Another aspect of his work which Mr. Y regards as of great importance is "goodwill publicity," providing facilities for the trade and technical Press to describe the firm's processes,

methods and activities. His company are prepared to give almost unlimited facilities to journalists in this regard.

A third aspect of publicity which Mr. Y finds important, is that concerning personalities in the firm, from chairman to office boy. Recently, for example, the firm sent a number of apprentices to the Continent, on an exchange arrangement with another firm. He managed to get a story about each apprentice into his local home-town paper.

Because the company have factories in the provinces Mr. Y has appointed a member of each factory staff as an honorary press officer, who may talk to the local Press, when occasion warrants. To help solicit the right information about a newsworthy employee for the local Press, each honorary press officer is provided with standard questionnaires designed by Mr. Y.

Mr. Y readily acknowledges that if he is to expect the Press to use his good stories, he must also be prepared to give them his bad stories. For example, not long ago the company had to lay off a few hundred workers at one factory. Mr. Y immediately issued a detailed statement to the local Press, explaining exactly why the men had to be laid off, and inviting the local Press to send representatives to interview the men, if they wished. As a result, none of these invitations was accepted, and the story of the lay-off got just a few lines in the Press. If, on the other hand, there had been any attempt to hush up news of the lay-off, some of the dismissed men would no doubt have approached a local newspaper, and there would have been journalists teeming all round the works, with resulting headlines in the next edition.

Mr. Y believes that a press officer's first duty is to answer questions put by the Press. No higher than second to this comes the giving out of stories to the Press. He keeps a log book of all Press questions, and against each question is entered a serial number, the date, and in the case of the national Press, the time that the question was asked—also any remarks as to the answer given or what was done about the question.

This log book protects the press officer if there should ever be a complaint that a question was unanswered, or a query by a senior executive of the



Do your telephone operators and mail room know who is responsible for your Press relations? Black mark, if your operator has to say: "We haven't a press officer"



At least half the best stories arise from "follow up" ideas in the editor's office, after he has received your Press release. Make sure that every story or photograph bears the name, address and telephone number of an executive who can give further information

company as to the wisdom of a particular answer. Every answer must be judged against the time at which it was given. Anyone can be wise after the event. Hence a log book is a great protection against unfair judgments based on subsequent knowledge.

Mr. Y keeps sets of addressed envelopes ready for stories to go out to any section of the Press, and he has a Press release file in which he records the serial number of each release, the date and the type of story. Copies of all Press releases are distributed to the managing director, the sales promotion director, the head of the department concerned in the story, and the editors of the firm's local house magazines. The serial number is not put on at the duplicating stage but is pencilled on afterwards, so that outsiders cannot keep a check on the number of releases made by the firm. In addition, each release is filed separately and the Press clippings that result are filed with it, after being routed to appropriate executives for their information.

Mr. Y makes an annual report of the score of publicity obtained each month, but he does not measure it in "column-inches," for he considers that there is no point in trying to add up two entirely different stories, one about a product and the other about an employee. All he does is to make a count of the number of "mentions" obtained in each particular type of newspaper or journal, and concerning each particular type of story—such as a product story, a technical story or an employee story.

**Case History 3.** Mr. Charles Hervey, public relations officer of the United Steel Companies, was in journalism before the war. After the war, he took one of the cadet executive courses for ex-servicemen, arranged by United Steel. During his subsequent work as a junior executive he was frequently given the task of entertaining Press visitors. This type of work proved very much to his liking, and when the company decided to appoint a full-time press officer, he got the job. He has since built up a remarkable position, controlling the publicity of a diverse and widespread group of steel companies—the largest group in the Commonwealth. He has a technical press officer to take off his shoulders the work of writing learned articles for technical journals. Apart from the technical press officer, he has just one

secretary to help him.

An executive of each member company of the group has been appointed as local press officer, with whom Mr. Hervey maintains close contact. If any member company plans a function, such as the opening ceremony of a new plant, for which Press publicity is desired, the organization of this event is put entirely in the hands of Mr. Hervey—working through a committee of senior executives of the company concerned. The cost of the event is charged to the company concerned.

One astute tactic of Mr. Hervey is to attend the annual Trades Union Congress as an observer. The Press send all their top industrial correspondents to the T.U.C., so Mr. Hervey takes the opportunity of throwing a Press party for these correspondents. This enables him not only to meet old friends but also to get to know any newly-appointed correspondents.

As public relations officer, Mr. Hervey conducts vacation courses at the group's works for public schoolboys and undergraduates who may later wish to make a career in the steel industry. Such courses are really outside the scope of this article. They have, however, led to something which is extremely relevant.

Every year Mr. Hervey conducts a one-day course for young journalists. The local newspapers and the large provincial groups send their young trainees on this course, so that they will get to know the steel industry and its problems. But as they are given this training free, with suitable refreshments and entertainment, by United Steel, they start their journalistic careers well disposed towards the group.

The degree of co-operation which Mr. Hervey has built up with the Press is such that when a journalist wants information about the steel industry in a hurry, rather than phone the Iron and Steel Federation, he will sometimes phone direct to Mr. Hervey, who thus becomes an unofficial spokesman for the industry.

## P.R. Consultants

**Case History 4.** One public relations

firm, Sidney-Barton Ltd., who have built up a large clientele during the last half-dozen years, prescribe much of their success to their system of organization. This gives the client confidence that they are working hard on his behalf, and that he is getting value for money.

When Sidney-Barton (whom we will call "the consultants") take on a new assignment, they point out to their client that results cannot be expected for roughly six months. The first couple of months are spent in making a detailed study of the work of the client and producing a report stating the publicity problems of the company and how it is proposed to remedy them. Then a meeting is held at which plans are approved. The consultants are reluctant to do "one-off" jobs for special occasions. They prefer to do regular and consistent work for a client, as they believe that the best results come from a continuous and rising volume of publicity.

When the consultants take on a new client, they form a high-level Public Relations Policy Committee at the client's premises. On this committee sit representatives of the consulting firm and the appropriate departmental heads of the client firm, the managing director of the client firm generally acting as chairman.

This committee meets every few months, as required. The consultants prepare the agenda and do the minutes. The value of this committee is two-way. It enables the client to see what the consultants have committed themselves to doing, during the next few months. And likewise it gives the consultants an opportunity of pinning down executives of the client firm, regarding any action to which they have committed themselves for helping the consultants.

Moreover, this committee gives the consultants authority to obtain the co-operation of members of the staff of the client firm. The minutes of the committee meeting are their authority, for the committee is, after all, chaired by the managing director.

Some of the consultants' clients have publicity officers on their staffs, but they nevertheless use the services of consultants, because this not only gives them the benefit of an outside view, but it also adds to the range of experience and contacts available. This is



After you have written a Press release, go through it and cross out unnecessary adjectives. Also be sparing in the use of your company's name

particularly valuable when it is important to make an outstanding publicity success of a special event.

Publicity often involves not merely writing a story and seeing that it gets to the right people, but *creating* the story in the first place. Here is an example of the sort of thing the consultants have to do. One of their clients is an aircraft firm who, of course, show their products at Farnborough. When, on one occasion, the consultants asked the client what they proposed to show, they were horrified to learn that the client intended to show only one model of a particular aircraft that had been first displayed the previous year.

The client explained that they could not send more than one as the others were needed for flight testing. After a top-level protest from the consultants, the client reluctantly agreed to put a whole flight of machines in the show, and to give an aerobatic display. This not only brought the firm great publicity and enhanced their prestige, but created an atmosphere of "quantity production"—important in the obtaining of orders.

**Case History 5.** It is now proposed to give a couple of examples of the work done and the results obtained by a firm of public relations consultants working on specific briefs. Voice and Vision Limited were in charge of all publicity for the opening on February 11, 1955, of the new factory for Jeremiah Ambler Ltd. at Peterlee, Co. Durham. Because the factory is on a New Town trading estate, the Ministry of Housing and Local Government, the Board of Trade and the Central Office of Information were interested in this venture, as well as, of course, the builders and the architect. The problem of providing publicity was therefore one of catering for the interests of all these bodies, as well as for those of Jeremiah Ambler. Also, because the new factory contained both British and American textile machinery of rather revolutionary design, there was a highly technical angle to the story of the opening.

Representatives of the trade, technical, business and financial Press were conveyed north from London the day before the opening, and they were joined on the day by the local correspondents of the daily and provincial Press.

The B.B.C. sent up their leading television newsreel cameraman, and he shot 1,400 ft. of film. A sequence from this subsequently appeared in Television News and Newsreel. Also the B.B.C. Northern News described the



opening on the day, and the same script was later used in the Light Programme on Radio Newsreel. With the co-operation of the Board of Trade, a bulletin on the factory was circulated to the editors of all B.B.C. overseas programmes, and to Reuters and other news agencies. Also a photograph and story about the factory were distributed to British information services throughout the world.

Because of the European connections of the chairman of the company, a special story, together with his photograph, was distributed on the Continent.

A member of the machinery company which provided much of the new equipment was present at the opening ceremony, and gave interviews to the technical Press.

Operatives for the new factory had been given a special form of training, and information about this was made available to the Press. The public relations company who represented the builders agreed to hand over to Voice and Vision the whole of the Press arrangements, so that there would

be no over-lapping, and the story of the building problems overcome at Peterlee was disseminated to the appropriate trade Press.

At an opening ceremony it is very easy for the leading V.I.P.s to spend all their time in an exclusive circle, apart from the main body. But on this occasion an opportunity was made for both the chairman of Jeremiah Ambler and the Minister performing the opening ceremony to spend some time with the Press.

The success of a publicity venture such as this should be measured not only in the immediate volume of Press clippings that result, but also in the continuing flow during subsequent months—the snowball effect. If the organization runs smoothly and the Press are treated with consideration, then provided the occasion itself is noteworthy, it is likely to become implanted in the minds of journalists so firmly that they will keep referring back to it in later months and basing other stories on that particular experience.

There are many indirect ways in which the sale of goods may be aided by editorial publicity. For example, Voice and Vision handled the publicity for Charnos nylon stockings when these were launched a few years ago. Nylons were then just becoming more plentiful, and the manufacturers were keen to market new and more attractive styles and gauges. But this could hardly be successful unless the public learned quickly to become more discriminating.

In the past women had eagerly snapped up any stockings available, without considering whether they were the most suitable. Therefore the manufacturers were strongly urged to make some of their first output of the new stockings available to the fashion editresses of the national and women's Press—so that they could themselves test the new styles and gauges. This was done.

Then the consultants wrote a general story about the importance of using discrimination when buying stockings—how this would save money as well as improving appearance. A national press agency put this story out on the ticker, and fashion editresses all over the country picked it up and published their own versions. No mention was made of Charnos stockings, and the millions of women who read the individual stories compiled by fashion editresses would hardly have guessed that all these stories originated in the office of a publicity firm engaged by one stocking manufacturer.



# How to Maintain The Goodwill of Employees

By KEITH UNDERWOOD

*"Telling the workers" is as important as telling the customers and the general public. This article describes how four firms, operating in different circumstances, give employees the sort of information which creates pride and confidence in the company's activities.*

EVERY form of publicity which increases a firm's prestige in the eyes of customers and potential customers can be used effectively inside the organization. Posters, direct mail, exhibitions and editorial publicity—all have their works equivalents, which, incidentally, have been described in detail in the recent series of articles on "Communications in Industry."<sup>\*</sup> Yet many firms which employ teams of specialists and spend large sums of money in the first field believe that hit-or-miss methods are adequate in the second.

How to maintain the goodwill of your employees can be expressed, more directly, in another way: How to sell your firm to your workers. Unfortunately, the word "selling," in this context, has undesirable connotations. But it should not. After all, the basis of good selling and good publicity is a good product.

## Do You 'Sell' Your Firm To Your Workers ?

*The basis of good selling . . . is a good product. In this case, the product is the company; its policies, its methods, its working conditions, its business successes, and its management.*

In this case, the product is the company: its policies, its methods, its working conditions, its business successes, and its management. Most readers will accept the argument that if their firms set a high standard in any of these respects, there is nothing wrong with bringing the facts to the employees' attention as vigorously as possible. If the standard is low, their own attention might be directed more profitably at other articles in this journal . . .

Although much is written about the value of employee-communications, many firms still think of this subject

only in terms of passing working instructions from one end of the company to the other. Yet positive information, concerning, for example, the volume of sales or the annual results, both interests and reassures the people whose jobs are involved. It might be a salutary exercise if all executives had to write down on paper the methods by which such facts are regularly disseminated in their organizations—and check them against the lines of communication which *could* be used.

This article is not concerned with "revolutionary" or "aggressive" methods of publicizing a company's activities internally. Selected case-histories show how four firms, operating in different circumstances, ensure that the right information is presented to all employees against a background of goodwill which has been established in many ways.

To some extent, the examples fall into the category of "blowing the cobwebs off the works notice-boards and seeing that they are used properly." They are no less valuable on that account. But two of them, at least, describe unusual variations of accepted methods of communication. These examples indicate, moreover, that internal and external publicity need not be placed in watertight compartments.

## Case History 1

Like many Anglo-American companies, Monsanto Chemicals Ltd. believe in the importance of "telling the employee" as well as the customer and the general public. Not that British Monsanto follow the same practices as their American associates. They have chosen and developed methods of "communication" which suit their own working conditions and the temperament of their own employees.

The chemical industry has a number of peculiar problems in this respect—although similar problems are becoming more and more pronounced in all industries which use mass-production methods and automatic processing. Main difficulty lies in the fact that many of the products have uses which are not easily recognized or understood by the layman. In Monsanto's case many process-workers never see or handle the materials which pass through their departments.

The company's internal information service devotes considerable attention to this point. Employees are shown the innumerable ways in which Monsanto products are used and the innumerable forms—including such

<sup>\*</sup>September, 1955, page 92; October, page 97; November, page 102.



homely things as plastic trays and domestic detergents—in which they appear.

Human relations, both internal and external, are handled by the department of industrial and public relations. The single control facilitates the co-ordination of both aspects in the common ground which is recognized to exist between them. Monsanto "disagree profoundly," however, with the idea of a public relations department being responsible for industrial relations policy as well. The two sections of the joint department work quite independently but in the closest harmony, each making the fullest use of the other's facilities and techniques.

The methods of communication are divided into three groups. These are:

**Printed Matter.** Most important medium in this group is *The Autoclave*, a bi-monthly house journal distributed free of charge. Although it has a fairly wide circulation outside the company, the contents are designed specifically for the employee.

Copies of each issue are posted to the homes of all employees. This method of distribution makes sure that everyone gets it and increases the chances that everybody reads it. Another advantage is that employees' families and friends see it too.

*The Autoclave* is never used as a method of circulating "instructions" or pawky propaganda. It has an independent editorial policy and is in no way a management "weapon." Its material is culled by the department of industrial and public relations from

all sections and levels of the company.

It does publish announcements and elaborations of company development and progress. Moreover, its feature section often includes up-to-date descriptions of the ways in which Monsanto products are used. But such

*Every year parties of (Monsanto) junior staff from London visit the company's factories, and, on a reciprocal basis, all members of the joint production committees at both factories come to London.*

items are out-numbered by the general-interest features, and a balance is struck by devoting a large amount of space to social activities, personality news and similar topics.

One disadvantage of house journals as a means of publicizing company activities is the time which elapses between issues. Monsanto overcomes this difficulty by providing a supplementary news service in the form of multigraphed information sheets. Bright yellow for easy recognition, these are posted on all notice-boards and individual copies are distributed for the widest possible circulation. About 300 copies of each sheet are issued.

The information sheets are up-to-the-minute releases giving clearly-worded details of new developments, new appointments, etc. As in the case of the house journal, working instructions are avoided—the channel is held

for announcements of much broader interest. Whenever Monsanto makes an announcement to the Press the same information, elaborated if necessary, is issued as an information bulletin. One big advantage of this immediate-release system is that it helps to scotch rumours by putting employees in the picture before they pick up garbled information from other sources.

Financial information is circulated, too. In 1949, Monsanto (who were one of the first British companies to introduce the technique of augmenting and illustrating their annual report) adopted the practice of giving every employee a copy of their financial statement. After two years, they realized that the amount of detail in the report was more than the average employee wanted. Since then, they have issued to all employees a condensed report, which takes the form of a printed and illustrated letter signed by the managing director. At the same time copies of the full report are available to all who ask for them.

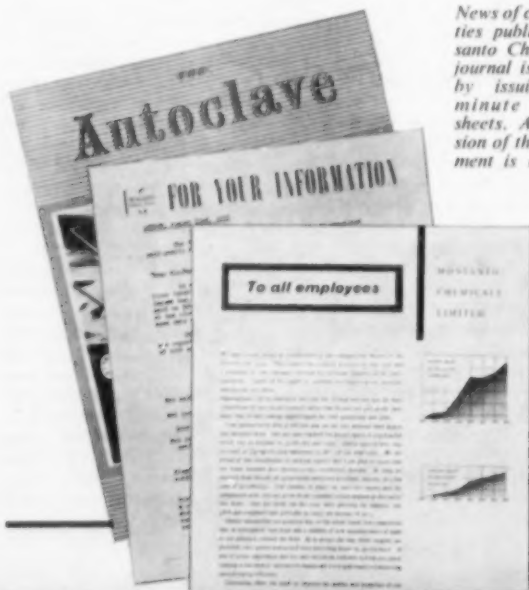
**Oral Communications.** Policy changes, new developments in the company's affairs, the introduction of important new products—all are discussed freely at meetings of the joint production committees. Monsanto makes full use of this two-way line of communication between management and employees. Where circumstances justify, meetings and discussions are held at various levels; members of the staff are invited to attend a special meeting when the company's annual results are declared.

The company arrange opportunities for representatives of their offices and factories to get together, too. Every year parties of junior staff from London visit the company's factories and, on a reciprocal basis, all members of the joint production committees at both factories come to London once a year, meet London staff and discuss a variety of subjects with the management.

All manual workers, irrespective of the jobs for which they are destined, are given a short induction course when they join Monsanto. This deals specifically with working practices, but also covers the company's operations as a whole.

**Visual Methods.** To show employees how the company's products are used, periodic exhibitions have been arranged at which articles made from, or incorporating, Monsanto materials are displayed. Factory open days have been instituted, too, at which end-product displays are set up in departments, and employees are invited to

*News of company activities published in Monsanto Chemicals' house journal is supplemented by issuing up-to-the-minute information sheets. A simplified version of the annual statement is also circulated*



bring their families and friends on a tour of inspection.

From time to time more ambitious displays have been staged in local towns. Employees and their families visited them as a matter of course, but members of the public were specifically invited also.

## Case History 2

The circumstances in which Kayser Bondor Ltd., hosiery and lingerie manufacturers, tackle the problems of building morale differ considerably from those described above. Certainly there is no question of having to "sell" to employees the company's reputation or the quality of their products. This is done automatically by the extensive press advertising—and by the fact that many of the employees are themselves customers!

Nevertheless, the company have to take into consideration problems which arise whenever groups of people—especially girls and young women—are employed on exacting repetitive work. A brief description of their methods emphasizes the fact that morale-building is linked inseparably with all aspects of personnel management. For the aim is simply to develop in the employees' minds the idea that "theirs is a good firm to work for."

Kayser Bondor have six factories in Britain. This case-history deals principally with the Portslade works, an up-to-date factory employing nearly 400 people and producing only brassieres.

A large proportion of the female employees are between the ages of 15 and 25. Generally speaking, the recruiting programme is aimed at school-leavers, whose dexterity in this type of work can be developed more easily than that of older women.

The company believe that the best way to maintain the morale of the whole factory is to establish and increase the morale of individual employees. This process starts as soon as workers join the company. First, the management use National Institute of Industrial Psychology tests as a means of placing recruits on jobs which they are likely to perform satisfactorily. Second, the girls are given a proper induction course which tells them a good deal about their future jobs and about the company's operations. Third, they spend three months in a self-contained training section (which uses up-to-date analytical methods of training) before they enter the works proper.

All this ensures that the factory

maintains a high level of productivity and a high standard of workmanship. It also ensures that *uniformly* good results are obtained from all employees, thus preventing the feelings of jealousy or frustration which often arise under similar conditions and may eventually turn against the company.

In many ways the management try to put across the idea that they "think a lot" of their workers; after all, confidence and goodwill are essentially reciprocal feelings. The factory manager interviews all trainees personally, to assess their progress and to find out how they like their jobs. A printed card, bearing the operator's name, stands on each worktable. These are small points, of course—but it is often the small points which get results in this field.

Parents are brought into the picture too: the personnel officer sends out progress-reports on all trainees. And parents' days, held periodically, help to develop the youngsters' pride in their jobs.

A works committee meets every month and discusses a wide range of subjects. Senior executives from London attend these meetings frequently and give first-hand information concerning policy, sales and future developments; the company's chairman himself attends occasionally.

But works committee meetings are only the formal aspect of joint consultation—which, in the management's view, is a day-to-day process involving all employees. As a matter of policy, the factory manager never makes a

*The management of Kayser Bondor Ltd. "try to put across the idea that they 'think a lot' of their workers; after all, confidence and goodwill are essentially reciprocal feelings."*

decision affecting the work or working conditions without discussing it personally with the supervisors and with people on the shop-floor.

Under the joint consultation system, workers from all factories are brought together periodically and given a chance to see what their "opposite numbers" are doing. Every year, the members of the six works committees (about 140 people) attend a central meeting which starts on a Friday afternoon and ends on the Saturday. The different factories are chosen, in rotation, as the venue.

The annual meetings are attended by all directors. Each committee puts

forward one subject for discussion: nothing is barred except union matters. Thus the employees' representatives get up-to-date news of the company's affairs—and the management get a number of really useful ideas.

*The factory manager never makes a decision affecting the work or working conditions without discussing it personally with the supervisors and with people on the shop-floor.*

Although employees are generally conversant with Kayser Bondor goods, the company bear in mind the fact that individual workers are handling small repetitive operations on one section of a garment. For this reason, the finished products are given additional publicity in the works. Copies of current press advertisements are posted on all notice-boards. In the underwear section of all garment-making factories, 30in. by 20in. enlargements of publicity photographs illustrate the styles which are currently in production.

## Case History 3

The house magazine is undoubtedly one of the most effective lines of communication in this field, and its popularity has increased considerably during the past five years. Today, more than 1,500 firms publish journals at monthly, bi-monthly or quarterly intervals, and the combined circulation probably exceeds eight millions—although this figure includes agents, customers and other non-employees.

It is not implied, of course, that every house journal could or should be regarded as an instrument of internal publicity. Plenty of them ignore the broader aspects of the company's activities, and concentrate on what may be described, neither unkindly nor inaccurately as parish-magazine stuff.

The reasons? In the first place, firms which produce house journals entirely from their own resources often find that restricting the contents to "names and faces" is much safer than trying to carry out a more ambitious editorial policy. In the second place, some firms frown on the idea of publicity in this form. One businessman summed up the second point of view when he declared: "Employees are only interested in reading about their own activities. They won't look at the journal at all if they feel that the same old management propaganda is being pushed down their throats." His

argument is reasonable—although it contains more than a suggestion of *qui s'excuse s'accuse*.

Here is a variation of the house journal theme which kills two or more birds with one stone. It is based on the idea of publishing company news in a local newspaper serving the area in which the works are situated.

Lyle and Scott Ltd., knitwear manufacturers, Hawick, Scotland, adopted this practice nearly two years ago. Their journal—still identified as such—appears on the first Friday of every month as a double-sided sheet in the *Hawick News*. The company buy copies of the whole issue and distribute them, free of charge, among their 700 employees. Other copies are sent to agents and customers in Britain and overseas. The fact that "external" publicity material is thus obtained at the same time is a big advantage of the scheme—and, of course, it indicates the type of information which is published.

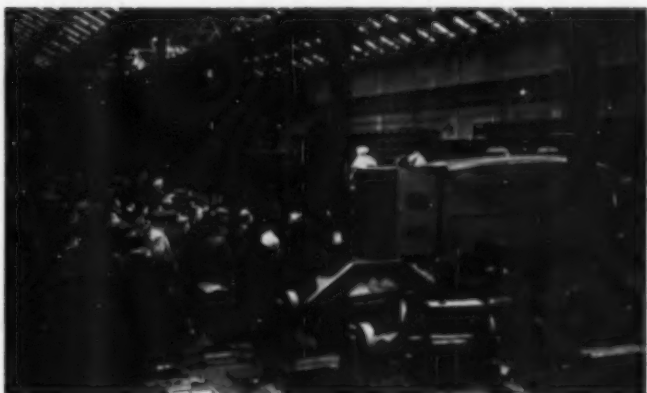
Previously, the company had produced a magazine entirely for internal circulation. The newspaper supplement is planned on much broader lines. In addition to news of employees' activities (the sort which are likely to interest all members of the community) it contains up-to-date information concerning production, home and export sales, new products, overseas tours by executives, marketing campaigns and other morale-boosting subjects.

The impact of such information on employees is increased by the fact that it is circulated and discussed among the whole community. In one sense, the employees are seeing the company's operations through other people's eyes.

Originally, Lyle and Scott sent copies of the appropriate issues of *Hawick News* to all customers. After a trial run, however, these people were asked whether they would like to receive copies regularly. About one-third of them said that they did. In the past, there had been no regular flow of general information in this direction.

The production of the supplement is in the hands of a public relations

For their house journal, Lyle and Scott Ltd. take space in the local newspaper. They find that the impact of company information on employees is increased by the fact that it is circulated and discussed among the whole community. In one sense, the employees are seeing the company's operations through other people's eyes.



After they have been exhibited publicly at local cinemas, Babcock and Wilcox magazine films are shown at key points in the works by a mobile unit

firm. They have a representative in the Border Country who acts as a liaison officer between Lyle and Scott's executives and the *Hawick News* staff. This arrangement is more satisfactory, the company find, than expecting their own publicity department in London to handle the job from a distance.

#### Case History 4

Babcock and Wilcox Ltd., manufacturers of boilers and boiler house equipment, have always enjoyed good labour relations—the sort which exist in many old-established firms without being traceable to specific "tactics" by the management. They are interested, nevertheless, in all methods of increasing the employees' knowledge of the company's affairs. Not that they share Monsanto's problems: the purpose of the work is obvious enough, but the fact remains that the end-product is often an immense installation thousands of miles away from the people who build its components.

About 18 months ago, the company became interested in the idea of developing a form of prestige publicity which could be aimed specifically at their workers and at the community in which these people live.

They examined the possibilities of starting a newspaper-within-a-newspaper on the same lines as Lyle and Scott. In their case, however, complications arose; the main works at Renfrew and at Dumbarton (about 12 miles apart) were not situated in a compact community served by one local newspaper.

Mainly for this reason the idea was

dropped. But from it developed an even more ambitious project with the same object: the production of quarterly 15-minute magazine films designed for exhibition not only throughout the organization but also at cinemas in the vicinity of the works.

The first edition of *Home and Away* appeared about 12 months ago. Since then new editions have been issued and a fourth is being released this month.

Copies of each edition are loaned free of charge to cinemas in the areas surrounding the factories. The "general release" period is about a fortnight, although the time for which the films are shown at individual cinemas depends on the frequency with which the programmes are changed.

After they have been shown publicly, the films are shown in the works by a mobile cinema van. Following a pre-determined schedule, performances are given at key locations, usually during the lunch-break. Finally, the films are made available to Babcock branch offices and representatives overseas, who use them as light-relief items in programmes composed mainly of the company's technical films.

Before the first edition was commissioned, Babcock and Wilcox approached the managers of local cinemas and asked them whether they would co-operate. The managers were cautious but agreeable; since then, the interest with which patrons have received the films has turned their reservation into keen co-operation.

The company themselves advertise the public showings in local newspapers and on the works notice-boards. They

*Continued on page 156*

# How Cybernetics\* Can Help In the Management of Men

By SIR GEOFFREY VICKERS, V.C.\*

ENGINEERS can make machines which can control themselves and each other. These machines "appreciate the situation," measure the divergence of what is from what ought to be and adapt their behaviour accordingly. In doing so, they apply "rules" which they have previously learned; and some, in the absence of an appropriate rule, will find one and remember it next time.

In all this they behave very much like men, whom they excel in accuracy though not in variety of response.

Such machines do not need to be continually "directed," like a chisel or a lathe or a bus. They do not even have to be continually supervised. They will do these things largely for themselves. The job of the engineer is to maintain them in optimum condition and to define from time to time what they are expected to do.

Now this is precisely the goal of all managers of men. How simple life

In the management of men, executives have precisely the same goal as engineers who devise self-regulating machines. In both cases they seek a means of getting work done which does not require continual supervision. This article outlines ways in which managers can learn from the principles being evolved by engineers.

reproach to the engineer that he has to treat machines like men. In the brave new world of automation we may hear one engineer say to another:

*That's an inefficient and out-moded machine, almost as unreliable as a man. You have to be always telling it what to do and even then you never know whether it will do it.*

To all this, of course, the managers of men could make forceful replies. Men are not much more like AA gun predictors or homing missiles than they are like hand-operated lathes. This may well be true; but my concern in this paper is to see what managers of men can learn from the principles which engineers are evolving for the control of machines. These principles may be of only limited application in controlling organizations of men, but in this field any help is welcome; and we may learn as much from differences as from similarities.

"Feedback" plays a central part in the engineer's idea of control. Whenever purposeful action is being taken, it can best be checked by comparing its result with the result which it is intended to produce. Is it having the desired effect? If not, in what way and to what extent is the result deviating from what was purposed? This deviation is the measure of the action needed to correct it. If the deviation can be made to operate a mechanism which

will "automatically" modify future action in the way needed to correct the error, then the circuit is closed and the system is set to control itself.

There are several essential elements in this circuit.

- 1—PREDICTION. We must be able to predict at every stage what effect the action ought to have if it is to produce the desired result.
- 2—INFORMATION. We must know what effect the action is actually having.
- 3—MEASUREMENT. We must be able to measure the difference between what is and what ought to be, at least sufficiently for the next steps.
- 4—CODING AND COMMUNICATION. The measured deviation must be coded in some convenient form and transmitted to the centre or centres from which action can be taken.
- 5—RESPONSE. This signal must elicit infallibly and at once the action needed to compensate for the deviation. Where different situations may call for different responses, there must also be a selecting mechanism which will choose the appropriate response; perhaps even a mechanism which will search for the right response by trial and error, discarding each

\*The author is a member of the British Institute of Management Council and is chairman of its Information and Research Committee. He was a member of the London Passenger Transport Board from 1941-46, and a member of the National Coal Board from 1948-55. This article is the text of a paper which he presented to the B.I.M. Conference on "The Impact of Science on Management in the Future" at Harrogate, last month.

would be if management, having defined the common purpose, could confine itself to the care of health, welfare and working conditions, leaving the organization to run itself! This also is the goal of all the managed. Who would ask more than to be given the general objective and allowed to get on with the job, self-directed and self-controlled, in working conditions as favourable as single-minded attention could make them? The automatic factory is a model to the "directed" factory, not merely in efficiency but also in what, for lack of a better word, we might call "ideology."

It used to be a reproach to a manager that he treated men like machines. We may be in sight of the day when it is a

## ★ CYBERNETICS—What it Means

The Chambers 20th Century Dictionary defines cybernetics as: "The study of communication and control mechanisms in machinery and in living creatures."



solution which proves unsatisfactory by some predetermined rule.

- 6—CO-ORDINATION. Where the response evoked is complex, its various parts must be co-ordinated. This may require further feedback circuits between the different parts of the responding machine.

In devising controlled systems the engineer has two main problems. He has to devise indices which will reflect with sufficient exactness the changing value of critical variables; and he has to arrange for these to trigger off appropriate compensating action. In both fields he has great scope for inventive skill.

Now all this is true also of the manager. He, too, needs indices which will measure and record the deviation from the appointed path. He, too, needs to devise means by which the recorded deviation will of itself initiate compensating action at many levels and to see that this is co-ordinated so as not to defeat itself. He, too, needs to recognize—and needs that all at the appropriate levels shall be able to recognize—which of several possible lines of action is called for and to know when to discard one as unsuccessful. And in all this he too has need and scope for great inventive skill in devising techniques to meet his needs.

He has, however, peculiar difficulties. Consider the field of prediction, information and measurement. The principle of control by budget and forecast is now widely accepted in principle, though by no means applied in practice as widely as it can be. There has been a great advance in accounting and statistical techniques to serve this need. In particular, it seems to me that the use of standard costs promises an immense advance in signalling deviations between what is and what ought to be to the levels where the information is needed.

### Measurement Lacking

There remain, however, important fields where this basic measurement is lacking and perhaps is unobtainable. I know, for example, of no reliable method of measuring the result of a training programme and comparing it with a reliable forecast of what it ought to be. Here, as elsewhere, the difficulty is largely due to the number of variables, some unidentified, which are operating at the same time.

For there must be economy of indices. No technician can watch more than a certain number of dials; no

manager can observe and collate more than a certain number of usually less obvious signals. The engineer is ingenious in identifying key indices, in devising analogues, in shunting the work of comparing and collating on to other machines. The manager, in

### Some Thinking Points

1. *Action should be controlled by the observed difference between what is and what ought to be.*

2. *In a mechanical system the information "automatically" produces the right action. There is no difference between "information" and "order"; and this is true of human organizations in proportion as they work well.*

his wider and more difficult field, begins to show the same initiative; but he has a long way to go.

Next the signal has to reach the place from which action can be taken. Here the manager's problem is notably more complicated than that of the engineer. Where the deviation from course strikes directly on the attention of those whose action is sufficient to put things right, control will usually take care of itself. But as organizations grow larger and their purposes become wider in scope and longer in term, this state of affairs becomes ever more rare. Usually the problem presents itself in one of two forms.

Sometimes the problem presents itself at the working level but requires action at headquarters. Sometimes it presents itself at headquarters but requires action on the shop floor. In either case the problem is the same—how to make *A* respond to a stimulus received by *B*? It is sometimes supposed that this is merely a question of communicating the facts to all concerned. This is, I think, too simple a view. All are not set and cannot be set to respond in the same way to the same facts. This ideal might often be realized more fully than it is now but it cannot bridge the whole gap. In addition the signal on its way up and down must be translated—recoded, if you like—into a form to which the receiving level is accustomed to respond.

When we come to the selection of appropriate action, the problems of the manager diverge still further from those of the engineer. The thermostat, if moved to act at all, has only two

answers—to increase or to reduce the draught. The answers available to a board of directors, a manager, even a foreman are usually more numerous than this, even though they are in practice more limited than the outside observer would suppose. Moreover, the choice between action and inaction—often the most critical choice of all—is far more complicated. There are also decisions of timing. So, generally speaking, when a board of directors behaves with the rigidly determined responses of a thermostat—as boards of directors often do, especially in financial matters—it is either a reflection on their powers of decision or a sign that they have got into such a jam, that choice is no longer open to them.

Nonetheless, the process of decision and particularly of collective decision seems to me to be in principle very much like that by which self-controlling machines decide which of various courses to pursue; and the differences are as significant as the similarities. This, however, is a big subject which I will not pursue now.

Finally, it remains to consider the fact that, while engineers are concerned with physical and chemical interactions, managers are concerned with the interactions of men. This, you may say, means that the analogy between mechanical and human systems breaks down completely at the last stage, namely the stage of action. The task of eliciting a response from a machine is different in kind from that of eliciting a response from a man.

*Continued on page 158*



*Like the engineer, the manager has great scope for inventive skill*



# MARRIED WOMEN

## How to Tap Industry's Only Labour Reserve

By GEORGE MACRAE



This article describes how the part-timers employed by Peek Frean and Co., the London biscuit manufacturers, have become an indispensable part of the labour force, how shifts are organized to fit in with the home needs of married women, and how the personnel and administrative difficulties involved in the employment of part-timers have successfully been tackled.

**B**ETWEEN the wars it was generally correct to address a "working girl" as "Miss," not "Mrs." A Home Office report on Women in Industry, published in 1930, came to the following conclusion:

"The industrial life of women is, in general, a short one. Though in some industries, such as cotton weaving, women may continue to work at their trades after marriage, in the majority of cases they do not. . . . Work in the factory is looked upon by most as a temporary career . . ."

Today, women's industrial life is not so short. Over three million married women are out at work for all or part of the day—over 40 per cent of the total number of women working outside the home.

Work in the factory, however, is still a "temporary career" for married

women, though in a rather different sense. Instead of wanting to devote only part of a lifetime to the factory, the married women usually wants to devote only part of her day to it. Instead of being a sideline to the serious business of *getting* married factory work becomes a sideline to the equally serious business of *being* married.

Not many of these women are nowadays driven to work by dire poverty; the opportunity to earn a little extra money to buy jam for the bread and butter brought home by the husband, and the chance of mixing with other adults in the factory as a change from looking after the children—these seem to be the chief reasons why married women are willing to do outside work. This means that firms wishing to employ them—and they form the one

reserve from which industry can still draw reinforcements—must try to arrange work which can be fitted in as easily as possible with the complimentary demands of the home, and to face the inevitable problems of fitting the part-time workers in with those doing full-time.

One of the first and largest firms, outside the traditional employers of married women, to organize special part-time shifts were Peek Frean and Co., manufacturers of biscuits, puddings and crispbread. At their Bermondsey factory the company also manufacture many of their own tins, and all their own packing cases and packing materials, print their own wrappers and stationery and have their own tailor's shop for making overalls used in the works, in addition to the main work of biscuit-making.

Male employees, mainly full-time, number about 750 by day, 375 by night and 80 on the evening shift. They work mainly on the most skilled and the heavy labouring jobs. There are about 700 full-time women on day work. A large part-time force now puts in about as many hours a day as all these full-time workers put together.

Times of part-time shifts, and numbers of women on them are as follows:  
7.30 a.m.—12.30 p.m. just over 700  
1.30 p.m.—5.30 p.m. just under 700

9.30 a.m.—4.00 p.m. about 200  
5.45 p.m.—9.30 p.m. about 450

The main reason for the introduction of these shifts was simply shortage of labour. The two half-day shifts, the most obvious form of part-time work, were started early in the war. Before that, the firm employed no married women, and had at the time grave misgivings about doing so. But the call-up, together with large orders for biscuits for the troops, made the shifts unavoidable and, once started, indispensable. Since the war, most of the girls leaving local schools have been lured across the river to City and West End shops and offices, and the need to draw on married women has been greater than ever.

### Personal Problems

These original shifts involve a number of problems, both personal and administrative. On the personal side the chief worry must, of course, be the married woman's possible threefold or fourfold need for sick- or compassionate leave. A single girl can get measles once only. As far as absence from the works is concerned, the married woman can get it by proxy for her whole family, one after the other.

The personnel officer has no magic formula for selecting only mothers of families immune to illness and other troubles, but she can, and does take steps to make absenteeism and part-timer turnover as low as possible, and to see that the mother's absence from home is not itself a cause of domestic upheaval. The company is reluctant to employ mothers of very young children at all, and will not employ any mother unless they are satisfied that a workable arrangement, and one that will last, has been made for looking after the children. Some firms regard enquiries of this kind as an unnecessary intrusion into personal matters.

But experience has shown Peek Frean's that it is a waste of the woman's and the firm's time to engage anyone who seems to be over-confident about how her family will get on without her. How long, for instance, will it be before a neighbour who at first welcomes a few shillings a week for looking after the children, decides that she could get more money and more fun by taking to factory work herself? On the other hand, if a mother is living with her parents or in-laws, it may well be a very good thing for mother and grandmother to have definite spells of duty at home and away. Sometimes

they take it in turns to come to the factory.

In practice, by reserving the morning and afternoon shifts for women with no children or with good caretakers guaranteed, the firm succeeds in preventing absenteeism becoming very much higher than it is among full-time workers. But they do not expect too much. It is recognized that many women come to work because they are saving up for some definite purpose; they may want to work for three months every year to get ready for Christmas. These are welcomed back, and there is a growing trained reserve in the district liable to turn up at any time.

The first difficulty in organization is to balance numbers in morning and afternoon shifts. Mornings tend to be more popular, but a rough balance has been achieved, and a number of jobs are available in the morning which do not need to be carried on in the afternoon.

Part-timers on these shifts are employed in every department which uses female labour—all, that is, except two. Fitting in married women to the two main types of work—manufacturing biscuits, and packing them—is complicated by the degree of dexterity needed. Older women who were not trained in the factory when they were young are employed mainly in manufacturing, which is not piece-work, and where it does not matter if the hands have become set in their ways. Many of

the women working here are between 40 and 60 years old.

But for piece-work, particularly creaming biscuits and packing assortments into tins and packets, fingers have to be more nimble if they are to achieve high speeds in the motions which work study has shown to be the most effective.

### Shorter Bursts

Dexterity, however, is not the only requirement for a high rate of work at these rather monotonous jobs. Getting up to a certain speed is one thing, keeping at it is another. Here part-time workers can really show their usefulness.

It might be thought that they would come to work jaded after their household tasks. In fact, they use a different set of muscles in the factory from those they use at home, and the monotony of the work is a welcome change from the monotony of their own company. It has been found that in her shorter bursts of work the married woman does considerably more work per hour than the woman who is at it all day. Two half-timers can therefore produce considerably more per day than one full-timer. This goes a long way to make up for the difficulties involved in the doubling of staff.

One of these difficulties was expected to be the need to train twice as many people for each job, and to train each



*It may not always be possible for large firms to run day-nurseries for part-time workers' children. But they can encourage working mothers to get together and take turns at looking after each others' children*

part-timer for twice as long a period as the full-timer. But it has turned out that freshness counts just as much in learning the job as in doing it. The woman training for half a day only develops her skill and speed almost as quickly as one who is training all day.

Other difficulties, particularly the doubling of overheads such as national insurance contributions, all paid by the employer at the full rate, and double sets of records and wage documents, have no such compensating advantages. These just have to be set against the fact that without the double labour force, some departments might have no labour force at all.

Another difficulty is that of the supervisor in planning the day's work. With full-timers she can see who is present and who absent first thing in the morning and make arrangements for the whole day. With part-timers, she will find that those missing in the afternoon are not the opposite numbers of those missing in the morning, nor will the totals be the same; she has to begin all over again. Further, the field from which supervisors themselves can be selected becomes narrower as the proportion of part-timers grows.

As far as organization goes, these workers are simply full-timers cut in half. The other shifts are a different matter. The 9.30-4 shift, specially designed for mothers with children at school, was started in 1949. One misgiving about its introduction was the possibility that all the other part-timers would want to change over to it. But this has not happened. The shift is a "short day" rather than a "half day": 9.30-4 looks like a large slice out of the day, but the actual hours worked and the pay earned are only a little more than the hours and pay of half-day workers. The shift is therefore attracting only those it was designed to attract, the women who have time to spare, but not too early and not too late.

The short-day workers cannot be fitted in with full-time work like those doing half a day, and the principle behind the shift is that if a machine cannot be run for the ideal nine hours a day, it is better to use it for fewer hours than to wait for the full-timer to turn up.

Most of these women work in a self-contained department of their own, with their own part-time supervisor, and production starts late and stops early without interfering with other departments. They also provide a useful reserve of tea-break reliefs in certain departments. Girls on the

conveyors have a tea-break staggered over an hour and a half in the morning and afternoon. A short-day worker can therefore spend three of her five and a half working hours filling the gaps on the conveyor.

The chief difficulty with this shift is naturally the existence of school-holidays, when absenteeism is bound to increase. But the management keep it down by encouraging and arranging transfers in pairs to the half-day shifts for the holiday period. One mother



*There is plenty of room for grandmothers in the factory. This one took her first job at Peek Frean's during the 1914-18 War, and has come back to do part-time work*

looks after the two families in the morning while the other is at the factory, and they change over in the afternoon. This is probably the best way of ensuring a stable part-time force and of seeing that the children are properly looked after. Pairing arrangements are made reasonably flexible by getting a dozen or so women who live near each other to organize themselves into a sort of child-sitting club.

The evening shift was originally introduced in 1951 and again in 1952, purely as a temporary means of keeping production up during the annual 16-week period of staggered holidays. It has now turned into a regular part of the day's work, as a way of increasing production without the need for extra space or machinery.

### Careful Selection

Even greater care has to be taken in selecting women for this work than for the day-time shifts. No woman is accepted if she has another job during the day, at Peek Frean's or anywhere else, unless it is a short one such as morning office cleaning or a few hours' charring from which she has had time

to rest before the evening shift begins.

The shift is particularly useful for women whose husbands are on late or night work, and who have someone to look after the children after 5.45. The obvious danger of it is that when the husband is not on night work, he may not like the idea of solitary washing up and baby-sitting every evening, or like it for very long. On the other hand, the shift does provide a valuable excursion into factory society for wives who must be tied to the home all day.

Apart from regular work on packing, this extra shift can be very useful in getting rid of accumulations and bottlenecks caused by fluctuations and variations in the day-time work.

Lastly, there are some general points of staff management which have to be considered where both full- and part-time workers are employed. In some factories there is a certain resentment among full-timers about their dilution by part-time labour, and it is necessary to guarantee special rights for full-timers where promotion, dismissal for redundancy reasons and other delicate matters are concerned.

At Peek Frean's the workers themselves insist that all must be treated alike, whether whole- or part-time, and that length of service should be the one criterion of privilege. Redundancy has not been a problem for a long time, but should it come, there is no arrangement that part-timers should be the first to go. The main difficulty with promotion is not in ensuring fair play, but of finding enough women willing to be promoted. Many of the married women are eminently suitable for supervisory posts, but most of them feel that they have quite enough in the way of responsibility at home, and want no extra worry in their jobs.

The principle of equality of treatment runs through every detail of administration and workers' representation. The works committee are elected without consideration of whether candidates are part-timers or not, and several part-timers sit on the committee. The evening shift, being apart from the day-time workers, has special representatives of its own. The firm's social and welfare facilities are open to everyone on the same footing.

The success of these part-time shifts can be measured not only by the increased production they have brought in spite of inevitable difficulties, but by the fact that the popularity of the shifts is by no means purely local. Married women travel to Bermondsey for half a day's work from all over South London and from as far afield as Bromley in Kent.

# MANAGEMENT AT WORK

## OPPORTUNITY

**JOHN DALE** Ltd., manufacturers of collapsible tubes, presented the facts in an unusually effective form when they introduced a new employee-shareholding scheme recently. Each of the 3,000 employees at the company's factories in London, Hertfordshire and Lancashire received a copy of a lively booklet entitled "The John Dale Opportunity Plan," which incorporates a series of simple questions and answers. Mr. Thrift—a cartoon character created by artist Maroc—pops in and out of the pages, drawing attention to "plain-language translations" of otherwise formidable terms like "six per cent unsecured convertible loan stock."

It is good to see a company eschewing the heavy (and often pompous) approach when introducing an offer of this sort! The opening paragraph puts the scheme on a down-to-earth basis. It says: "To stay in business and safeguard our jobs for the future we must do everything to become more and more efficient. This means buying new and up-to-date machines and even, maybe, putting up new buildings. These cost money, and as the new money comes in it will be used for these purposes."

The offer is as attractive as the booklet. Every employee with at least 12 months' service was given the chance of buying a minimum of £50 worth of the company's six per cent unsecured convertible loan stock. Payment could be made in any of three ways: in a lump sum, at the rate of 1s. in the £ at half-yearly intervals, or by monthly instalments. The booklet points out that £50 of stock costs less than 2s. a week.

From 1959 onwards, employee-shareholders will be able to convert their loan stock into ordinary shares

at a fixed price of 12s. 6d. per share, irrespective of the Stock Exchange price at the time of conversion. So employees have been told specifically that if the company prospers their share in that prosperity will increase automatically.

## OUTSIDE OPINION

**H**OW to enliven a conference speech—by using an office dictating machine. J. C. Y. Houghton, car and truck sales manager of the Ford Motor Co.'s export division, gave a demonstration when he addressed a one-day conference arranged by the Incorporated Sales Managers' Association in London recently.

The subject of his talk was: How to Sell Without Fixed Prices and Discounts. To emphasize some of his points, he played back a question-and-answer transatlantic telephone conversation which he had recorded on wire.

In this way his audience obtained, virtually first-hand, the views of a typical American businessman on a particularly controversial issue.

## ON THE SPOT

**A**N item in last month's **BUSINESS** (page 99) mentioned that Lansing Bagnall Ltd., Basingstoke, manufacturers of materials-handling equipment, placed much importance on the value of giving potential customers on-the-spot demonstrations. Now the company have taken this policy a step further by chartering a complete train from British Railways, equipping it as a large-scale mobile showroom, and sending it on a six-week tour.

The train left Paddington on November 1, after Derek Walker-Smith, Q.C., Parliamentary Secretary to the Board of Trade, who attended the inauguration ceremony, had pronounced an official blessing on the scheme. It has

already visited ten industrial centres, including Bristol, Cardiff, Liverpool, Glasgow, Newcastle and Leeds. The tour ends next week (December 7) with a two-day halt at Birmingham.

The five main coaches are carrying a comprehensive range of the company's fork-lift trucks, pallet and stillage trucks, tractors and trailers. These are being demonstrated in the goods yards at all stopping-places.

A sixth coach is equipped as a cinema, complete with its own generating plant. Here, the visitors see a selection of instructional films showing the trucks and other units in use at a variety of factories. There is also a reception coach.

Says A. R. Wright, a director of Lansing Bagnall: "I know there are many executives all over the country who are keenly interested in mechanical materials handling, but just cannot spare the time to come to Basingstoke. We are taking the complete range to them..."

## FOR BIGGER ORDERS

**H**ERE is another idea on the same lines. A Scottish firm of wholesale confectioners have produced a blown-up version of the traveller's sample-bag, and at the same time have struck a new note in the self-service theme.

Like many of the large wholesale houses, this firm—Thomson and Sons Ltd., Glasgow—face the problems involved in making quick deliveries to retailers in a scattered area. Shopkeepers in the more remote districts often require small parcels of sweets, and providing a prompt delivery service in such cases is completely uneconomic. So the company are particularly interested in any methods of encouraging customers to place large orders wherever possible.

With this in mind, they have put into operation a mobile showroom carrying samples of the 1,000-odd lines which they sell. This has a central gangway with two display sections—arranged in the style of a traditional sweetshop—on either side.

The van does not make deliveries. But the shopkeeper on whom it calls



*A new type of mobile showroom—the special train which Lansing Bagnall Ltd. have sent on a six-week tour of the main industrial centres in Britain (see this page)*





*A party of French scientists arrive at a Crawley, Sussex, factory by helicopter—and inaugurate a private "taxi" service (see this page)*

can walk through it at his leisure and select the goods which he wants to order.

The advantages to the retailer are obvious: by having the "warehouse" brought to his door, he saves time, effort and money. In 15 minutes he can complete a job which previously involved either a visit to Glasgow or a series of letters and telephone calls.

Thomson and Sons get considerable advantages, too. By showing a full range of products, they encourage customers to place bigger individual orders than in the past. They can also plan their delivery service on more economic lines by following in the trail of the showman.

## AIR LIFT

**M**OVING a business to one of the satellite towns has many advantages, of course. But one disadvantage is that foreign buyers and other important visitors have to make a time-wasting and tedious journey from London.

Edwards High Vacuum Ltd., who moved from South London to Crawley, Sussex, about two years ago, are overcoming this difficulty by using helicopters.

The service was launched recently when a party from the Commissariat à l'Energie Atomique of France paid a one-day visit to the works. Their plane arrived at London airport at 10.10 a.m., and they were picked up by two helicopters which landed in a field near Edwards' factory at 11 and 11.20 a.m. respectively. The journey by rail takes 90 minutes.

The visitors were able to start their talks before lunch. They were taken back to London Airport in time to catch the 6 p.m. plane to Paris.

Apart from what they saw at the works, the speed with which the trip was conducted impressed the French party considerably.

Edwards have the advantage of being within a short distance of Gatwick. According to one of their executives:

"We treat this more or less like a taxi service—whenever we need a helicopter we ring up the airport and tell them to prepare a flight."

## OPPORTUNITY WASTED

**F**IFTY-FOUR British firms exhibited their goods at the Ghent International Fair this year. Only one of them sent along a director to "help out" their agents. But German exhibitors were fully represented by their own personnel—and they did much better business on the whole.

In presenting their annual report, the Fair's organizers make this pungent comment: "The I-can't-be-bothered attitude will never pay."

They stress the vital importance of personal on-the-spot representation at all foreign trade fairs. "It is not enough," they tell British businessmen, "just to instruct your local agent to take stand-space . . . unless you or at least a member of your firm can spare a flying visit to ensure that your goods are really displayed to the best advantage. Agents are all very well, but they do represent firms from other countries as well . . ."

Personal representation, the organizers maintain, is a "crucial point" in Britain's chances of prosperity and survival in the export market against very heavy competition.

## EXECUTIVE QUALITIES

**W**HAT makes a good manager? Lists of generic qualities (initiative, courage, etc.) are common enough, but these are not so easily expressed in terms of everyday conduct. J. R. Malcomson, president of the Institute of British Launderers, had a good try when he spoke at a weekend conference held by the Young Launderers' Movement recently. Here is his list:

*Faith*—in his industry, his job, his company and himself.

*Knowledge of Human Nature*—understanding people's feelings and reactions.

*Cheerfulness*—particularly when

things are not running smoothly. ("The successful people in life have always been cheerful, hopeful people who go about their business with a smile on their faces.")

*Courtesy*—both workers and customers respond to courteous treatment. ("How many industrial disputes would have been avoided if a little more understanding had been shown by the management to the workers.")

*Tact*—doing the right thing at the right time.

*Enthusiasm*—the urge that maintains drive and interest, and leads to success.

*Alertness*—keeping wide awake to opportunities and being ready for the next move.

*Imagination*—putting oneself in the position of workers and colleagues, and visualizing their thoughts and aims.

*Personal Tidiness*—always important, and specially so in an industry selling clothes and cleanliness.

*Reliability*—doing properly whatever job is expected of you and thereby building a reputation as a trustworthy individual.

## Reviews in Brief

**A SIMPLE GUIDE TO SHAREHOLDING AND COMPANY ACCOUNTS** by John Wood (Putnam) 9s. 6d. This 128-page guide, starting off with a chapter headed "How to Buy a Share," and discussing the significance and meaning of reserves, bonus issues, rights, dividend yields and other "mysteries," is extremely clear and easy to read.

**MANUFACTURING BUSINESS** by P. W. S. Andrews (Macmillan) 16s. Second edition of a standard economic text which was first published in 1949, giving the results of research financed by the late Samuel Courtauld into the relation between scale of enterprise and efficiency. This book has produced a revolution in economic thought about the relation between costs of production and market prices for most manufactured goods.

**PERSONNEL MANAGEMENT**, Its Scope and Practice, by C. H. Northcott (Pitman) 30s. Third edition of a standard text by the former director of the Institute of Personnel Management and former labour manager of Roentree & Co., York.

**EDUCATION AND TRAINING FOR INDUSTRIAL MANAGEMENT—A CRITICAL SURVEY** by Aubrey Silberston (Management Publications Ltd.) 12s. 6d. In 100 pages the author covers thoroughly and more than adequately a field which he approached "rather sceptically" when he became one of the first holders of the Kenward Research Fellowship in 1950. Rejecting the idea that managers can be created by training alone, he nevertheless believes—and demonstrates—that proper training is of considerable value. One section surveys the various management training facilities available in Britain at present; another gives examples of internal training schemes set up by firms in the motor industry.

**THE ART OF INVESTMENT** by A. G. Ellinger (Rowe & Rowe) 15s. The author, with a leading reputation in financial journalism, starts with the assumption that his readers know nothing at all about investment. After taking them gently through a few explanatory chapters, he goes on to describe his techniques for using charts as a guide to investment policy. This book is a very good investment for potential investors in stocks and shares.



# He Gets the Best Out of 20,000 Workers

By ALAN WHITEHEAD

**A**LTHOUGH originally an electrical engineer by profession, Douglas Pole Welman has achieved success in several spheres not so much by his application of mechanical knowledge, but by managing men properly and thereby getting the best out of them. He believes that the problems of management are fundamental and common to every organized activity, whether it be a commercial concern, nationalized industry or a Government department.

He is at present chairman of the North Western Gas Board. Under his leadership, the board enjoys the reputation of being one of the most efficient in the country.

When he accepted this post he was managing director of Foster, Yates & Thom Ltd., of Blackburn, Lancashire, a company which he had guided over the course of several years, from difficult times to prosperity.

There are many men who would have been tempted to sit back and enjoy the fruits of their labours. But it has been a characteristic of Mr. Welman that no sooner has he achieved success in one field than he has sought others to conquer.



*Pervading all his work is Mr. Welman's personal interest in his employees. Right — signing long-service awards. Above—chatting informally on the shop floor*

Good management of men has been the keynote in the varied and successful career of D. P. Welman, present chairman of the North Western Gas Board. One of the necessities of good management, he believes, is effective communication with employees. In the organizations which he has served, it has been his rule to keep staff and workers in the picture *before* any new developments affected them. And when giving orders to subordinates, he believes that one should give reasons. Such principles, learnt in private industry, have helped him succeed in a nationalized authority.

To each task he has brought the same basic principles of management — principles taught by experience. These are concerned with the right way of handling men. He says that today there are too many who believe that management and organization are synonymous, and imagine that modern machines and up-to-date methods and equipment are the only requisites for success in business. Although a firm believer in the benefits science can confer on industry in the way of improved devices and techniques, he

holds that these can only be *part* of a good organization. Any concern, in short, is only as good as the men who comprise it.

Born in 1902, and educated at Godalming and Tonbridge, it was intended that Mr. Welman should follow the family career in the Army. After the first world war, however, he found no attraction in military life and decided to become an engineer.

It was a big decision for a young man in his position to make. His family were naturally not enthusiastic about



his choice, and he knew no one in the engineering profession who might guide and advise him.

In spite of this he served an apprenticeship in general engineering and then took a first class honours diploma in electrical engineering at Faraday House. As a result he received several offers of well-paid posts, which he declined because his heart was set on being a consulting engineer. He took a job at £3 a week with Preece, Cardew & Rider, consulting engineers to the Crown Agents for the Colonies.

Before long he became an assistant engineer, and in this capacity was responsible for the specification and design of the first power station to be built in Grenada, British West Indies. He was called upon to submit a short list of names for the post of resident engineer, whose job it would be to go to Grenada, build the station, substations and transmission systems and put them to work. Seeing an opportunity to gain first-class field experience, he added his own name to the list and got the job.

This was a tremendous responsibility for a young man of 24, with little experience in the field. The undertaking would have been difficult enough in England, where at least there would have been sources he could refer to for guidance and trained labour on whom he could rely. But in Grenada the coloured labour force he had at his disposal were not only unskilled but completely ignorant of even the most elementary mechanical and electrical matters. Few had ever seen electricity before! The only artisans on the island were motor mechanics and stonemasons.

He was therefore faced with the necessity of training local men from scratch to fill the posts of switchboard attendants, linesmen, electricians and enginemen to operate and maintain the large direct injection diesel engines which powered the electrical generators.

Apart from that, a site had to be found, so that Mr. Welman also had to act as surveyor. He concluded that the only possible site was in an awkward spot on St. George's Harbour. It was not the easiest of civil engineering jobs, involving the piling of recently reclaimed land. But he had all a young man's optimism. He applied himself well to the task and the station is still giving efficient service today.

In addition to this main task the Governor, dissatisfied with the old magneto-type single-line telephone system of the colony, handed over to Mr.

Welman the responsibility for its overall management and reconstruction, including trunk lines and the modern two-wire system.

With the completion of the power station a new problem arose. There being little industrial activity in the colony, the load factor of the station was uneconomic, and some major load had to be found, preferably on a 24-hour basis. Mr. Welman decided that an ice-making and cold storage plant would be ideal for the purpose.

Fortunately for him, at that time cocoa, the colony's main export, was not doing too well and the Government were willing to consider the suggestion that, with such a plant, an export market could be built up in citrus fruits.

On the other hand, no one at that time had any experience of the citrus fruit trade, or, for that matter, of the storage conditions required to match the then rather irregular shipping facilities.

He realized that if the growers could

## SOME PRINCIPLES

which have helped Mr. Welman succeed

1—Choose good men and so far as possible pay them according to their worth.

2—Take employees into your confidence when making plans which will affect them.

3—When giving orders, put yourself in the place of the person who will receive them, and give reasons.

4—Create a competitive spirit among the staff. But it must be part of a general desire for further achievement—not just competition at any price.

be persuaded that an overseas market existed for their produce, they would support a storage plant. He built it, and then went abroad to persuade possible importers to buy Grenada fruit. Eventually this trade developed and kept the plant—and therefore the power station—economically occupied. His "sales tour" was, of course, unofficial and outside an engineer's normal duties. But apart from achieving his object, he added to his store of knowledge of human relations.

At that time the word "federation" was just beginning to creep into the West Indian vocabulary. It seemed likely to remain but a word, since no

island appeared willing to be over-ridden by an officer from another. The Governor therefore decided to try an experiment—to put over the idea of federation by linking up the electricity and telephone departments of Grenada and the neighbouring colony of St. Vincent. Here Mr. Welman's presence gave him an opportunity, and upon being asked to build a power station and ice and cold storage plant for Kingstown, he became head of the electricity and telephone departments in both colonies, dividing his time between the two.

Soon afterwards he decided that he had spent enough time in the West Indies, for he had never lost sight of his original goal of being a consultant. He therefore resigned and returned to England.

He set up his own consulting business in London and caused comment in engineering circles by siting his office in Moorgate, for in those days it was felt that any consultant outside Victoria Street (the "Harley Street" of engineers) was bound to fail. Mr. Welman proved how wrong this belief was, for he built up a thriving business. One assignment took him to Ceylon, where he spent two years.

By the time he returned to England he had developed a preference for the business side of consulting, rather than that of pure engineering, and he soon got opportunities to put his new ideas into successful practice.

In 1937 he was invited to join Foster, Yates & Thom, an old-established firm of heavy engineers, and became managing director—a post he held for 14 years until he joined the gas board.

The company was not at that time in an easy position, and he was faced with the necessity for a complete reorganization, both physically and administratively. At the time the company were making chemical and general engineering plant, steam and electric winding engines for the South African Mines. The designs of some were obsolete and others took up so much space on the factory floor that they were uneconomic to produce. Mr. Welman knew they had to turn to new products, with new plant and modern production techniques. This, in turn, meant a revised layout of the works and the urgent necessity for considerable capital expenditure.

Before the company had time to implement fully their changed policy, however, war broke out. They immediately went over to war production, making a variety of armaments, including the first "block-buster" bombs

and complete prefabricated sections of tugs and tankers which were hauled by road to the Humber where they were finally welded together and launched.

The end of the war meant a complete changeover to peacetime production. This was carefully planned and carried out so smoothly that, except for the women who had been brought in for war production, no-one was displaced.

Under Mr. Welman's management the production capacity of the main works increased by two and a half times without any addition to floor space. And yet he does not like incentive bonus schemes, for he says that they not only destroy craftsmanship but also destroy the basis of a man's pride in his work.

Some incentive schemes were operated in the company, but their "damaging" effects were, he considered, largely offset by a system under which each man was appraised and paid an additional flat weekly rate according to his "value" to the firm.

### *Personal Appraisal*

"Choose good men, measure their worth, and pay them according to that worth," is one of Mr. Welman's maxims. He believes that this brings far better results than bonuses and piece-work rates. Each worker at Foster, Yates & Thom was appraised at half-yearly intervals, being assessed according to his approach to his work—not on how much he produced. In the light of this he was paid a rating in addition to his normal pay.

Shortly before the war, in spite of many commitments, Mr. Welman began to take an active interest in public work. In 1938 he initiated and became chairman of the Blackburn and District Armaments Production Committee.

It was about that time, when war seemed imminent, that various Government departments began to look for firms to undertake the production of war materials. Although business was slack in the engineering industry, and many companies were only too eager to accept Government contracts, few knew how to establish contact with the various Ministries. The B.D.A.P.C., therefore, was formed to bridge this gap.

In 1942 he was asked by the Minister to become director of aero engine production at M.A.P., and in 1943 he became deputy director general.

After the gas industry was nationalized in 1949 Mr. Welman accepted the



*The progressive policy of the North Western Gas Board is reflected in the almost Wellman appearance of the new Denton gasworks*

invitation of the Ministry of Fuel and Power to become a part-time member of the North Western Gas Board, and became its chairman in 1950.

The N.W.G.B., with headquarters in Manchester, serves a population of 6½ million—one seventh of the nation. The main problem facing the board when Mr. Welman took over was that of welding together and creating a common spirit in an area organization comprising 103 individual undertakings. These represented every size and type of gasworks, from small rural works to the larger urban company—all with different points of view, different traditions and of widely varying efficiency. All had doubts and fears as to what nationalization might bring, and morale was at a low ebb.

It is characteristic of Mr. Welman that, tackling with full vigour the vast amount of work required to improve technical efficiency and consumer service, he set as his most urgent target the raising of morale.

### *He Offered Leadership*

The difficulty of this task can be gauged from these facts. The board serves some 4,500 square miles, and has 20,000 employees. In addition to the 103 works, there are a very large number of service centres, depots and holder stations. Mr. Welman believes that "to give of his best, whatever his job may be, a man must believe in what he does and have reason to be proud of the organization of which he is an integral part. It is therefore essential that senior management offer full and effective leadership, coupled with absolute integrity of both action and intention."

Both these things—leadership and integrity—he offered, and today there cannot be many concerns with a higher morale. This, coupled with

wise but courageous spending in the early years, has produced results which speak for themselves. At the end of the second year of operation there was an accumulated deficit of some £750,000. A year later this had been written off and was replaced by a surplus of over £300,000. In the following year the surplus rose to just under £1 million and for the last financial year the surplus was £1,027,000—over 40 per cent of the national total.

Mr. Welman believes in good relations with his workers and with the public his board serves. Each year he invites leading newspaper editors to a conference, when he encourages question and answer to flow freely. He does not believe in merely circulating a report to the Press and leaving it at that. Pressmen have naturally responded favourably to his methods, and there has hardly been a single occasion on which he or his board have been "roughly handled" by the Press.

Because he believes in good communications in industry, he likes his subordinate officers to display a similar interest in this problem. When, for example, he is visiting a group in his area, he makes a point of reading the notices the manager has put up for workers. He tries to see them as a worker would. He believes that it is not sufficient to give orders, one must also give reasons. For he knows that though a man may work hard because he is afraid of losing his job, he will work still better if he understands and takes a pride in his work.

Mr. Welman sums up the meaning of management in a few words: "Management requires a fundamental honesty of purpose. Its success lies largely in encouraging others to succeed. In short, when management is really successful, this is because every member of the organization believes with reason that it is also his individual success."

## How to Get Results From

# Technical Campaigns

**T**HERE is much advertising of engineering products which is horrible, and what is even more alarming than the general presentation is the enormous waste of good money.

It seems to be the case that immediately man makes a technical product he becomes imbued with the idea that he, and he alone, is the only person who is capable of writing about it. He fails to appreciate that he can become a bore when he talks about his own products.

A qualified advertising practitioner is capable of sorting out the facts and presenting them in an interesting and sometimes exciting manner. It is, however, alarming to find that even where advertising agents are employed on technical accounts some of the advertising issued remains dull and boring. This is by no means entirely the fault of the agents, and one of the causes is the alarm with which some engineering concerns look at anything new or lively.

It should be remembered that advertising is basically a means of communication. In order to arrest attention and create interest advertising must tell a story and tell it well. To do this the unusual layout has its value, but this is not essential.

Technical journals published in this country are, in the main, extremely well produced, and they are widely read in all parts of the world. Moreover, this country *must* sell all over the world. Every individual firm's contribution plays a part in our efforts to obtain world trade. Every advertisement is an ambassador.

Some firms say they only advertise to keep their name in front of prospective customers. They do not expect to sell—so why spend more money on costly layouts and a continuous flow of new designs? But from my experience they are making a big mistake. They could be very surprised at the difference good, well planned advertising can make.

The small technical account with a

By **DON A. TIBBENHAM M.I.P.A.**

*Managing Director, Tibbenham Publicity Ltd.*

Here is a plan for a campaign which can lift technical advertising out of the "horrible" class to which much of it belongs. The plan covers choice of media, choice of technical points to be highlighted, and decision on illustration technique.

budget of £2,000 presents a mass of interesting problems because the majority of technical products have a national market, and in some cases an international one.

What weapons are available in the advertising armoury? These must be carefully selected and forcefully used if the utmost results are to be obtained. As with every advertising scheme it is first of all essential to ask oneself what is the advertising intended to do? Is it to be used to do the job of a sales representative or to support a sales team in their efforts?

### *Picking the Buyers*

Secondly, it must be decided who are the most likely buyers and whether they want, or have to be educated to want, the product being offered.

Thirdly, the most economic media must be selected to do the particular job decided upon, and the forceful selling of publishers' representatives must not be allowed to cause a deviation from the plan of campaign.

On a small yearly budget it is very

necessary to have a carefully prepared plan, and to ensure that it is directed at the market, or markets selected, without deviation. Continuity and repetition are essential.

In this country there are over 1,400 technical and trade journals serving industry. They can be split into various groups, as follows: aeronautical; chemical; electrical; engineering; farming; finishing; gas; hardware and household; laundry and cleaning; metal industries; oil and petroleum; plastic; pottery and glass; radio and communications; refrigeration; rubber; shipping; and transport.

From this list it is now possible to exclude the groups least important to your particular problem. Next, the journals in the categories of interest to you must be studied. To help you, most of the publishers will send you facts and figures. There are still a few who will not co-operate, and this is to be deplored. I well remember one journal, on being asked for circulation figures, replying that their magazine had been published for over 60 years and that was all they were prepared to



It is often advisable to choose an illustration technique which distinguishes your product from those of close competitors. The several techniques available are listed on page 96 and include cut out half-tone (left) and wash drawing (right). Further examples are shown on next page

say—I wonder what they were afraid of disclosing?

Circulation figures alone are not sufficient and can be misleading. The type of reader, the reference value and life of the journal—these are the things you want to know.

I have great faith in the effectiveness of technical journals, and however limited the advertising campaign it will pay to include at least the leading one in the sphere of business being tackled. It is sometimes also advisable to reach the top executives, when they are not concentrating on the daily factory and office routine, through more general media. Since the war there has been a marked increase in industrial advertising in media which is read by the general public, and, in particular, by a special section of the public. For example, *Punch*, *The Times*, the *Financial Times*, *Business*, *Scope*, *The Director*, can be used to considerable advantage outside the actual field of technical journals.

It is easy to use the whole of a small appropriation in technical journals, but I do not believe this is always a wise policy. To do as I shall outline here demands more courage, but it is, I feel sure, one of the best methods of building prestige and sales at the same time.

1. A six or twelve shot mailing campaign to a selected list of prospective users.

- Supporting advertising in the two or three leading journals reaching the industry or industries on the mailing list. Spaces to be full pages and half-pages alternating (according to money available).
- A series of prestige advertisements in one non-technical journal or newspaper. (These will have to be

comparatively small because of the high cost.)

- Top quality art-work, photography and design only to be used, and every advertisement professionally type-set to give it a high-class finish. Probably just as much as in consumer advertising, repetition and consistency are essential in technical advertising. It is here that perfection of every aspect of layout and design pays off, and it is here that so often these things are lacking because of a hide-bound insistence by one or more directors that advertising can never sell their products because they are too technical.

Technical advertisements, whether in journals or in the form of direct mail, must have personality and recognizable features. Look at some of the better known examples illustrated here.

I have complained about the dullness of much technical advertising. I believe the best way to overcome this is to ask a few questions before any attempt is made to begin creating the actual advertisements:

1. Is the product something new?
2. Does the user know what it looks



Advertisements used to illustrate this series of articles are NOT taken from the agency of the author

## ESSENTIAL ADVERTISING POINTS

- 1—Abandon the idea that only the maker of a technical product is capable of writing about it.
- 2—Plan your advertising campaign to include direct mail, technical journals and general business journals.
- 3—Use the 14-point questionnaire on page 95 to decide the features to be highlighted in the advertisements.
- 4—Employ an illustration technique which distinguishes your product from those of close competitors. (A list of eight techniques is given on page 96.)
- 5—Study some of the outstanding advertisements in leading journals for style.



like, or has your product got special features of design?

3. Does the user want to see what can be produced with the product?
4. Can you show it in use?
5. Is it used by well-known concerns?
6. If it is similar to other products on the market why should the user buy yours?
7. Does price come into it?
8. Is the finish better?
9. Are your manufacturing methods unusual? Have you a story here?
10. What about delivery?
11. Do you provide an advisory or technical service?
12. Have you produced any interesting and valuable technical data not previously issued by competitors?
13. How does your product help production, e.g.:
  - (a) Does it cut down labour and save time?
  - (b) Can it be used or operated by unskilled girl labour?
14. Do you offer an installation service?

The answers to these and other questions can form the basis for the advertisement designs, but how the answers are used will depend upon the skill and knowledge of the creative advertisement designers.

For example, let us suppose the product is to be illustrated, and that there are six competitors who also show similar products. If in the other six cases straightforward photographs are used to illustrate the announcements, then you can give yours a new look by using a different technique.

What techniques are available?

- (a) Photographs reproduced by half-tone block.
- (b) Simple line drawing in black and white.
- (c) Bold line drawing with use of one or more mechanical tints.
- (d) Scraper-board drawing with its almost 3-dimensional effect.
- (e) Photograph of the article in use with everything except the particular product ghosted down.

**DO ALL YOUR EMPLOYEES  
CONTRIBUTE IDEAS, TO  
MAKE YOUR BUSINESS  
MORE EFFICIENT?**

**IF NOT, READ THE ARTICLE  
ON PAGE 99**



**UNFAILING INSULATOR**

A copper wire is an excellent conductor of electricity, but it is not insulated. In many applications, especially at high temperatures, insulation is improved by using Silcones, a chemical now being developed in this country by ALBRIGHT & WILSON.

**ALBRIGHT & WILSON**  
CHEMICAL  
DOW CORNING SILICONES

**Copper Strip**

Even if we weren't paying for this picture we wouldn't like it! It conveys nothing of the quality of our copper products... our concern with clients' specifications, our precision in matters of gauge, weight and conductivity; and there is nothing to suggest our standing with some of the leading manufacturers of electrical equipment. While we agree, therefore, that our policies are wonderful, we refuse to disguise it. Please do not write—except on business. Tel: Abbey 2771.

**SYMONDS LTD.**  
67 VICTORIA ST., LONDON, E.W.1

Here are two further examples, showing the scraper-board technique (left) and a simple line drawing (right)

- (f) Dramatic photo taken with man at work. Special lighting.
- (g) Wash drawing by means of which emphasis can be given to various aspects of the product.
- (h) Explosion drawing which shows some of the inside workings of the product.

Here are eight variations to what might easily have been a series of straight forward illustrations of a number of products which have almost identical features.

Then there is the general presentation of the advertisements in the technical press.

The choice of suitable type faces plays a very important part, and even the monotonously dull announcements issued by some concerns can be given considerable life and interest by merely changing the types used for headlines, text and name.

It would be as well to study some of the outstanding advertisements for technical products now issued by many of the leaders in their respective spheres of business. This may be difficult to do because you do not know what to look for or how to judge their merits. I suggest, therefore, you look at the technical advertisements that appear in *Punch* and *The Times*—the standard is particularly high in these journals.

Do not just look at your competitors' advertisements; study carefully the announcements of other industries. Watch the styles of illustration, the type faces being used, and read carefully the textual matter. There are a lot of useful tips to be gained from others, and, when you begin to study advertising, you will soon have new ideas about your own.

Remember, if you have something to say, it is worth saying it well.



*Trainees receive basic instruction in the operations of each department from experienced members of the staff. The programme covers all aspects of the company's clerical work*

Confronted with a recurring shortage of skilled clerical workers, The Marley Tile Co. Ltd. have introduced a 48-week training scheme designed to attract girls straight from school. Besides stimulating recruitment, the scheme gives trainees a wide knowledge of the firm's procedures and ensures that a steady stream of qualified staff is available to step into responsible jobs.

## A Year's Training Attracts their Office Staff

By HUGH LINDSAY

**W**HEN a company have their head office in an area with a limited working population, yet close enough to London for City firms to take a large proportion of the local labour, they are set a number of staff problems. Even if they make their working conditions sufficiently attractive to compete with the lure of London, they are still left with the task of obtaining skilled clerical workers from a comparatively small "pool."

Faced with problems such as these, The Marley Tile Company Ltd. have introduced an unusual training scheme which is designed to encourage youngsters to join the firm straight from school and to give them a thorough grounding in all aspects of office work. Although the scheme has been in operation for only a few months and it is too early to examine results and draw definite conclusions, a description of the system should interest many firms who are in a similar position.

This company, with factories in various parts of the country, have their head office at Sevenoaks, Kent. Here, they have a staff of about 300, two-thirds of whom are women. Because the majority of women give up full-

time work within a few years of marriage, there is inevitably a regular turnover in staff—a factor which emphasizes the importance of maintaining a steady flow of trained personnel.

Their girls' training scheme, as set up at present, is concerned with quality rather than quantity. The aim is to accommodate six girls at a time, although there are now only five girls undergoing training. This is because the company are particularly selective; at the time of starting the course, only five girls of the type considered suitable were available.

Girls are selected for the course by the staff manager, P. R. Clark, after he has interviewed them, in most cases, with their parents. Trainees, unlike apprentices, do not have to sign any sort of indenture; a week's notice either way is the basis on which they are engaged.

One stipulation made by the company on accepting a girl for training is that she attends evening classes at least twice a week. This is necessary

since it is anticipated that most trainees will be drawn from secondary-modern schools and will possess little or no knowledge of commercial subjects. In addition, the company give trainees one day off each week—without loss of pay—to attend day continuation classes at Bromley Technical School.

The subjects which they take at the continuation classes are chosen, in the first instance, by the girls themselves. They may, for example, take shorthand, typing, book-keeping, or the operation of the variety of business machines which the company use. If, however, it later transpires that a girl has no aptitude for the subject which she has chosen, the firm may suggest that she changes to one to which she may be more suited.

The course is scheduled to last 48 weeks, but the girls receive full pay—scaled according to their age—from the moment their training begins. Every phase of the training is carefully planned, the girls visiting each department in turn and remaining there long



*The course is essentially practical. During duty with the head office secretaries, a trainee types correspondence from a recording machine*

enough to learn its operations and general routine.

The programme for individual trainees may begin in any one of the departments, but all girls cover the same ground eventually. A typical programme starts with eight weeks in the engineering department, followed by eight weeks in head office accounts. From here, the girl moves in with the head office secretaries for eight weeks, then to the Riverhead branch office for a similar period.

Next on the schedule is a two-week period in the mailing and post department, two weeks in advertising and design, two weeks dealing with floor tile sales, and two weeks in the head office buying department. The course concludes with an eight-week return visit to head office accounts, where the trainee goes into the more advanced work of the department.

The programme is broken down further by a week-to-week schedule of duties for trainees during their stay in each department. For example, their eight-week period in the engineering department is planned as follows:

*1st week.*—Recording and renewing licences in the company's driving licence register. Filing of transport vehicle correspondence.

*2nd week.*—Filing log sheets and in-

vestigating late returns. Making out requisitions in respect of vehicle requirements.

*3rd week.*—Repeat of first week's duties.

*4th week.*—Repeat of second week's duties.

*5th week.*—Procedures concerning delivery tickets and requisition forms, also packing case returns.

*6th week.*—Material sheets, price extensions and additions.

*7th week.*—Repeat of fifth week's duties.

*8th week.*—Repeat of sixth week's duties.

The programme in each department is adhered to as closely as possible, but changes can be made according to the capability of the trainee and the staff available at the time for instruction.

In a number of departments, various types of business machines are used. Trainees receive basic instruction on these machines from the operators, but if they decide that they particularly like this type of work and would like to specialize in it, they can take a comprehensive course at their evening or day classes.

A painstaking check is kept upon the progress of all trainees throughout every stage of the course. Heads of the departments through which they pass are provided with forms on which to record their impressions of each girl. The forms deal with personal appearance, alertness, attention, industriousness, co-operation, time-keeping, and an over-all assessment.

Departmental heads merely have to relate the girls' progress to a scale of assessments. For example, under the heading of industriousness they are asked to consider to what extent a trainee "sticks to her job," and place a tick against one of the following: Gets down to the job and is not easily diverted; shows a desire to participate in the work of the department; works

fairly steadily; or, shows little interest in the job on hand.

Another link in the process by which they compile a comprehensive picture of each trainee is provided by a weekly discussion group at which the staff manager presides. Every Friday afternoon, the trainees gather in Mr. Clark's office to discuss and review the work of the past week. From the manner in which they conduct themselves and the questions they ask, he gauges their personality and the interest they are taking in the work.

By taking into consideration the departmental reports, Mr. Clark determines how each girl is shaping. Their week-by-week progress is recorded on a wall-chart in his office. A coloured pin is put against each girl's name for every week that they have been on the course. The colours vary from black, for bad, to pink, for excellent.

The chart is open for inspection by the girls themselves, who are thus given the unusual facility of seeing what their superiors think of them. The competitive spirit which this system engenders is considered an incentive. This chart is also of great value when the time comes, at the end of the course, to delegate the trainees to a permanent job. It indicates the departments in which they have done well—or not so well—and simplifies the job of selection.

One of the big advantages of this training scheme is that it gives girls an opportunity of trying their hands at the diversity of jobs carried out in the company's offices, and at the end of the course they should be in a position to state a preference for the work they think they are most suited for. Equally as important, it gives them a wide understanding of the company's operations; this should be of particular value in the event of illness or during the holiday season, when they should be able to deputize in various departments with a minimum of tuition.



*A period in the punched-card section of the head office accounts department, where trainees gain a basic knowledge of the equipment, usually comes at the end of the 48-week course*

# These Workers Become 'Efficiency Experts'

By PETER SPOONER

C.A.V. Ltd., Acton, are running a series of five-day work simplification courses which produce more positive results than many training schemes. Selected groups of employees study specific jobs and devise better methods of doing them—methods which are often put into operation at once. This article describes how the courses are planned and followed up.

WORK simplification is largely commonsense. Although it involves some apparently formidable techniques like process study and motion economy, these are only methods of applying on a systematic basis the same principles that an assembly worker applies instinctively when he moves a tray of components from one side of his bench to the other—and thus eliminates an awkward piece of bending or stretching.

The value in this field of drawing on the commonsense of people outside the team of specialists who think of nothing else is demonstrated by an unusually effective scheme which has been running for some time at the Acton, London W.3, works of C.A.V. Ltd., manufacturers of fuel injection and electrical equipment for commercial vehicles, and agricultural, marine and industrial engines.

Every month, 12 employees attend a five-day course covering the principles and practice of work simplification. They represent a variety of occupations: foremen, chargehands, time

study engineers, cost estimators, tool designers, draughtsmen, inspectors, graduate apprentices, production trainees and other personnel. One effect of "mixing the bag" in this way is that a lively appreciation of work simplification methods is being developed systematically in all sections of the company.

At the same time the courses, which were initiated about four years ago, are producing more positive results than many training or appreciation schemes. While C.A.V. recognize the long-term advantages of giving key personnel a working knowledge of these methods, they have adopted a form of training which makes sure that the knowledge—and the commonsense—is applied immediately. The value of each course is, in fact, pinpointed by a number of specific improvements in the company's operations.

Lectures, discussions, demonstrations and tests represent only one side of the programme. For much of the time the men are devising better methods of doing jobs which they

themselves have picked and studied in the workshops. Moreover, the results of these wholly practical exercises are not pigeon-holed when the course ends. Undoubtedly the most important feature of the scheme is that all successful "projects" are put into operation as quickly as possible.

In this way, the work simplification courses supplement the activities of the company's old-established and fairly large work study department. The advantages are considerable:

1—The men approach this work with "fresh" eyes. When studying unfamiliar operations in departments other than their own, they see possible improvements which the experts sometimes miss. In addition, a competitive spirit is introduced by dividing the course into teams—the fact that each team has to produce definite results in a short time puts its members on their mettle.

2—By concentrating on the study and improvement of relatively small jobs, the courses allow the work study staff to spend more of their time on large-scale projects.

3—The scheme brings to the surface good ideas which already exist in the minds of supervisors and others, but have not been put forward in the past because—a familiar argument—it involved a lengthy procedure. In this respect, the courses reveal in a somewhat advanced form the advantages of an orthodox suggestions scheme, especially as an appreciation of the principles of work simplification often clarifies ideas which were previously confused.

4—Practical experience in this field ensures that key personnel understand more fully the work study department's problems. By virtue of the manner in which the courses are composed, a more co-operative spirit is developing at all points in the chain between the design office and final inspection. It also embraces the rank-and-file operators who are put into the picture while the teams are making their studies in the workshops.

The value of the work simplification is confirmed statistically. In four years C.A.V. have held more than 30 courses, involving nearly 400 men, and about 200 jobs have been studied. At least 40 per cent of these studies have resulted in the introduction of new methods. The average increase in





**BEFORE:** The old method of assembling an excess fuel device (shown on right) had many drawbacks. Components were scattered haphazardly over the work-bench. The operator had to stand. The method of assembling the adjusting screw involved some risk as the screwdriver was likely to slip. Considerable fatigue occurred because a strong spring was held in compression during part of the operation. Wire for attaching loose shims to the assembly had to be cut by hand



**AFTER:** The new method, introduced as a result of a work simplification project, provides a tidy, compact workplace arranged for balanced working by a seated operator. A suitable holding fixture eliminates nearly all physical fatigue. The fixture also incorporates a wire guillotine

working efficiency per project—including those which, for various reasons, have been rejected or are being held in abeyance—is 43 per cent. From this it may be deduced that in many cases the team's recommendations have more than doubled the efficiency of the operation in question.

When the scheme was introduced in 1951, it covered only workshop practices and the courses were held at bi-monthly intervals. About 18 months ago, however, C.A.V. decided that it should cover their administrative and clerical operations as well, and office

and factory courses are now run alternately.

The scheme is sponsored by the personnel department and administered by the work study department, who provide the chief instructors. Lectures and demonstrations are also given by an ex-work study engineer attached to the personnel department, the methods chief and (for clerical work simplification courses only) an office methods expert, and a man from the mechanized accounting division.

Twelve men is, the company believe, the largest number which can be accommodated satisfactorily on one course. The method of selection is to obtain nominations from the heads of various departments. Volunteers are welcomed, too, and a number do in fact come forward—an indication that the scheme is generally approved by the employees whom it concerns.

### Skills Balanced

Each course is divided at the outset into three teams, although this division does not take place in fact until the practical stage is reached. The aim is to strike an effective balance between the skills and experience of individual members. C.A.V. have found, however, that the inclusion of one draughtsman (or someone who is at least accustomed to putting ideas on paper) in each team helps to ensure that the projects are worked out satisfactorily. The teams elect their own chairmen.

Before beginning the course each man receives a copy of a work simplification manual prepared by C.A.V.'s parent company, Joseph Lucas Ltd. In the case of factory courses, the week's programme is as follows:

**Monday.** The first session—starting at 9 a.m.—establishes the friendly but essentially businesslike atmosphere in which the courses are conducted. Each member introduces himself briefly, giving his name, occupation and position in the company. The instructor explains the objects of the course and describes in general terms the principles of work simplification.

At 10.30 there is a half-hour break.

The instructor then begins to cover the ground in greater detail, showing in the first place how typical operations can be "streamlined" after they have been broken down into a series of individual movements. Much use is made of specially prepared charts which pick out the salient points of each procedure.

After lunch the methods chief gives a 90-minute talk on materials handling, internal transport and allied subjects. The remainder of the afternoon is taken up by an explanation of operation-process study and—arising from it—the first of the practical tests.

### Competition

For this purpose the instructor demonstrates a fairly simple manual operation, repeating it slowly several times. Two members of each team write down what he is actually doing; the others make notes of the points at which, they feel, some improvement is possible. Then the teams retire to separate rooms and are allowed half-an-hour in which to develop a more efficient method of doing the job. If their ideas involve the use of special tools or jigs (as is often the case) they make Plasticine models.

Thus the competitive element is introduced at an early stage of the course. When the men return to the lecture room, one member of each team demonstrates the method which he and his colleagues have devised. The instructor then shows them the right method—"right" in the sense that it has been developed by motion study experts and is put forward as a model. Afterwards, the teams produce operation-process charts of their own methods. This exercise draws their attention to superfluous or awkward movements which they have overlooked.

### Typical Test

The tests are never elaborate. The men are not being encouraged to seek difficult projects; the whole idea of the scheme is that they should think in terms of simple jobs which can be made even simpler. A typical test operation consists of threading a washer, a spring and a collar on to a shaft, compressing the spring, aligning a hole in the collar with a hole in the shaft, and inserting a rivet. In this case, the job can be simplified by introducing a special assembly fixture, and by arranging the assembly trays in a form which enables the operator to pick up each part in turn with whichever hand is naturally





## Where **TIME** is important

Designed originally for the exacting and varied demands of factories, the INTERNATIONAL MASTER CLOCK SUPERELECTRIC TIME SYSTEM is installed in every type of building. A full list of users would practically be a list of successful organisations throughout the world.

The range of Time Equipment operated from the International Master Clock Includes :

- Attendance and Job Time Recorders
- Electric Time Stamps
- Automatic Control of Time Signalling
- Electric Secondary Clocks
- Personnel Locators

The exclusive feature Automatic Supervision is applied to all these time units ensuring uniform, accurate time always. In addition to impulses advancing all clocks every minute there is automatic verification every hour that these impulses have been received.

Other features are :

- All-mains operation without the use of batteries.
- Parallel wiring, allowing addition or removal of any clock without affecting other clocks.
- Continued accurate time despite any fluctuations in electricity supply.
- Two seconds' duration of impulses providing ample time for operation of moving parts in large clocks, Time Recorders and Time Signalling equipment.

Included in these are Aircraft and Motor Industries, Manufacturers of Electrical Equipment, Chemicals, Food Products, Textiles, Clothing, Tobacco and Leather goods and Public Authorities such as Health, Electricity, Coal, Gas and Transport—Road, Rail and Air.

If you have not already installed this System we shall be glad to send particulars, or to survey your present Time equipment and make a report, without cost or obligation.

Ask for booklet, On Time 1564/2, sent free on request

**IBM UNITED KINGDOM LTD**  
formerly

International Time Recording Co. Ltd

Showrooms : 8 Berkeley Sq., London, W.1  
Telephone MAYfair 2004

and at

Birmingham, Manchester, Leeds and Glasgow  
FACTORIES : LONDON AND GREENOCK

# There are no Mistakes when You Install... *Copyfix*



**BECAUSE  
IT IS FOOL-PROOF  
AND FUSS-PROOF**

"Anson" Copyfix produces a true **"second original"** of any document in less than one minute ready for immediate use.

"Anson" Copyfix gives perfect white photocopies which otherwise would take hours to type, in no more than a few seconds. It will produce both sides of any double-sided document on one sheet of paper, a perfect facsimile of the original. Annotations, alterations and signatures are faithfully and strongly reproduced. The copy, indeed, is more legible than the original.

Copy typing, checking and correction are entirely eliminated. The Managing Director, the Secretary, or the Office Boy can use the "Anson" Copyfix. Efficient in performance, yet stylish and compact, it occupies hardly more space than a typewriter and it can be kept as convenient to your desk as the office telephone. It is part of ordinary office equipment—not photographic apparatus kept in the basement. It is used under everyday office conditions. **No darkroom is necessary, no rinsing, no washing, no fixing, and no stains.**

One "Anson" Copyfix does twice as much work in one day as six typists in one week **CORRECTLY.**

Increase the efficiency of your organisation. Save time, save money, make information available instantly to all concerned. "Anson" Copyfix is worthy of your further investigation. Kindly complete the form below for full details.



1956

## "ANSON" COPYFIX ENQUIRY FORM

Please send full details of the "Anson" Copyfix, without obligation.

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

MARK FOR ATTENTION OF \_\_\_\_\_

TELEPHONE No. \_\_\_\_\_

VOLTAGE AC/DC \_\_\_\_\_

Pin completed coupon to your letter-heading and post to

(R.I.) **GEORGE ANSON  
& CO. LTD.**

Anson House,  
58 Southwark Bridge Road,  
London, S.E.1.

Telephone: Waterloo 3746

"free" at that particular moment.

**Tuesday.** The day starts with a lecture on a particularly important subject: motion economy. After explaining the basic principles, the instructor gives a few straightforward demonstrations. He shows, for example, how the number of separate movements which he makes whilst signing his name can be reduced from seven (with an ordinary pen and bottle of ink on the desk) to five (pen in an inkstand) and then to three (pencil on flexible holder). Although this example is deliberately carried to the point of absurdity, it illustrates principles which can be related quite easily to many routine factory operations.

After the half-hour tea-break, the instructor from the personnel department discusses the causes of industrial fatigue, emphasizing among other things the effects on output of colour, lighting and seating.

In the afternoon, the chief instructor passes round a series of charts and models illustrating—at "before" and "after" stages—some of the jobs which have been simplified during previous courses. These miniature case-histories indicate the type of results which the teams are expected to produce.

The afternoon session concludes with another operation-process test, on the same lines as before.

**Wednesday.** After a last-minute briefing by the instructor, the men start their investigations in the factory. Each team is given the choice of two workshops—an arrangement which eliminates the danger that 12 men might descend on one group of operators, and also enables the organizers to make sure that the scheme is covering the whole organization. One point which is borne in mind when each course is planned is that men from the diesel shops should be sent into the electrical shops and *vice versa*. The company believe that a man is more likely to spot weaknesses in the handling of materials, etc. if he is unfamiliar with the process itself and is not prejudiced by the knowledge that it has "always been done that way."

By lunchtime the men have chosen the projects on which they will be employed during the second half of the course. Working in pairs, the members of each team make two studies: a single operation and a sequence. They question operators and supervisors and obtain as much information as they can concerning the jobs.

Their search for information often takes them into a number of departments. They may believe, for example, that a time-consuming operation could



*Although C.A.V. Ltd. have established a high level of efficiency in the lay-out of their production shops, they believe that improvements can be made continually in individual operations. The work simplification scheme expresses this belief in an unusually practical form*

be simplified if the inspection standards (which may appear to be unnecessarily high) were reduced slightly, or if changes were made in the design of certain components. In each case, the facts are obtained from personnel in the appropriate departments. Sometimes it is necessary to ascertain the answers to questions concerning machine utilization, production control, transport or even sales prospects.

In the afternoon the teams return to the self-contained workshop in which this part of the course is held. Immediately they start to pull their jobs to pieces—and to consider methods of putting them together more efficiently.

The workshop is equipped with a variety of hand tools, but no power tools are available. Prototypes have to be made in the form of wooden models.

**Thursday.** The projects continue. Although an instructor is present all the time and helps to resolve any difficulties which arise, the men are expected to work, as far as possible, on their own initiative.

**Friday.** The men are allowed an hour in which to clear up their workshop and prepare for the demonstrations which occupy the remainder of the morning.

At 10.30 a group of directors and managers visit the workshop, and each team explains and demonstrates the project on which it has been working. One of the directors gives a short talk, thanking the men for their efforts, and pointing out that the management regard the work simplification courses as a particularly valuable method of increasing the efficiency of the company's operations and of contributing to improved productivity.

Later in the morning, the demonstrations are repeated for the benefit of departmental heads. A free-for-all discussion takes place, the visitors seizing—as they are intended to do—

the opportunity of pulling to pieces any of the teams' recommendations which, in their opinion, are impracticable. The fact that all departments are represented at this session—and not only those in which the studies were made—ensures that the merits or demerits of the new methods are examined from every angle. It also ensures that on-the-spot answers are given if a recommendation criticises, directly or by implication, the work of departments like design, inspection, transport and time study. Moreover, the arrangement has definite propaganda value, since it shows senior executives exactly what the courses are achieving.

After lunch, the chief instructor gives the last lecture. His theme: Preparing the operators and installing the new method.

The teams "cost" their projects and estimate (using time study where practicable) the savings which should be achieved under workshop conditions. The instructor "vets" these figures to make sure that they are realistic. Finally, the men prepare the written reports which are sent to the departments concerned.

Departmental heads must act on the reports which they receive from work simplification teams, so although the course has ended the follow-up stage has already begun. The teams' wooden models are promptly despatched to the tryout department, where experienced fitters make the finished tools, jigs and other devices. By dispensing with the intermediate process of preparing detailed drawings, the company save time and money; as a rule, the tools are available within a fortnight. Another advantage is that the tryout fitters are not bound by hard-and-fast specifications, and may incorporate refinements on their own initiative.

When the tools are ready, the teams

*Continued on page 157*



*Typical of the smart, yet simple furniture manufactured by the Morris company are this tea-trolley and coffee table*



# PLANNING and PRODUCING *For a New Market*

By JOHN PARKYN

**I**N 1948, Morris of Glasgow, one of Scotland's biggest furniture manufacturers, decided to reverse a policy of 40 years' duration and sell their products in the open market. This was a decision of some importance in the firm's history as, up to the outbreak of war, they had concentrated almost entirely on the manufacture of special-type furnishings for shipping lines and other large concerns. (They are still responsible, in fact, for a large proportion of the furniture aboard the *Queens*.)

It was the war which really killed this "specialist" market, and by 1948 the huge increase in the price of materials and labour had made it abun-

dantly clear to Morris that specialized work would no longer be profitable, once the first phase of post-war re-furnishing had been completed.

Fortunately, at that time, a new market was not hard to find. With the housing drive just beginning, thousands of married couples buying new furniture and hire purchase making its first postwar appearance, the domestic furniture market was an obvious choice for any firm which had the facilities and experience needed to produce durable, attractive furniture at a competitive price.

In the summer months of 1948, therefore, Morris executives and designers began to plan an entirely new range

In the October 1950 issue of *BUSINESS* was an article describing how Morris of Glasgow, well-known furniture manufacturers, were planning their first-ever onslaught on the popular market. The article below takes up the story after a lapse of five years, and describes how careful attention to detail during the planning stages, plus a flexible production system and skilful sales promotion, have brought the firm's campaign to a highly satisfactory position.

of furniture—the *Cumbrae* range. In doing this, they showed a firm disregard for traditional methods—traditional, that is, in the furniture industry—and it was this freshness of approach which played a large part in establishing *Cumbrae* furniture on the popular market.

**DESIGN.** First and foremost came the problem of design. Morris were shrewd enough to appreciate that pre-war types of furniture were not likely to cut much ice with the postwar generation of young marrieds. Furniture would have to be "contemporary" in style—smart yet functional. There was the question of price to consider, too. Furniture made by the group production methods used prior to 1939 would be too expensive to market at a competitive price.

It was through paying careful attention to these two requirements—modern styling; economical price—that the firm were finally able to evolve their system of "interchangeable component" furniture. This means that the component parts are mass-produced—itsself a tech-



THE ACCOUNTANT *prefers figures to words but about the Paragon Register he waxes quite eloquent.*

BECAUSE *the Paragon Register provides full up-to-the-minute facts and figures relating to sales—cash and charge.*

BECAUSE *the Paragon Register simplifies book-keeping and preparation of statements.*

BECAUSE *The Paragon Register furnishes the data for preparing daily summaries of sales in each department.*

*Three good reasons for liking the Paragon Register—the Paragon Representative can demonstrate many more.*

*See him when he calls.*

## LAMSON PARAGON LIMITED

PARAGON WORKS, LONDON, E.16. Telephone: ALBert Dock 3232

DECEMBER, 1955

105





The time has come to talk of many things . . . and how to get up-to-the-minute information is not the least in importance. To act correctly you must know the vital facts of your business. Consult us if your problems are connected with production, accounts, purchases, sales, costing, personnel, orders, maintenance, credit, transport or distribution. A simple Postindex record system may be the answer.

*For a start why not ask for Catalogue P.60?*

# POSTINDEX VISIBLE FILES

Art Metal Construction Company, 201 Buckingham Palace Rd., S.W.1. SLOane 5201



Morris's "interchangeable component" system is clearly demonstrated in this three-drawer chest, with mirror (below), and sideboard. Sub-units, such as drawers, can also be switched round



nique rarely found in the furniture industry—and are then assembled into the different types of article as the orders come in. The fact that the component parts of the various products are the same in shape and size might suggest that the finished articles themselves would possess a "sameness" which would seriously detract from the appearance of the range as a whole. How this problem was overcome by skilful design and planning can be seen in the pictures reproduced above and on the previous page. Interchangeability of sub-units—as distinct from components—is also demonstrated in the pictures of the sideboard and three-drawer chest.

**SELLING.** Although sales promotion is normally preceded by produc-

tion, Morris found it necessary to reverse the usual order due to the reaction of retailers to their prototype *Cumbræ* models. Many believed the "new look" would not sell. "We'll have to have proof before we stock," was the general attitude, and so the next step taken by the company was to set about getting real proof that the new designs had solid customer appeal.

They chose three ways of doing this:

1—*Magazine advertisements*, especially those magazines aimed at the furniture-buying public (*Ideal Home*, etc.). Advertisements were attractively laid out, with large illustrations of the furniture and the tag-line "Consult Your Local Dealer" prominently displayed.

2—*Exhibition displays*, including the B.I.F. Few orders were taken, but that was not the company's aim. Comments—for or against—were what was wanted, and so instead of salesmen the stands

*To ensure a high degree of proficiency, operatives are transferred at regular intervals on to other machines*

were manned by executives and designers.

3—*A direct mail campaign*, aimed mainly at retailers. This included an offer to pay 50 per cent of all local *Cumbræ* advertising costs (a practice which is still in force).

These methods had the desired effect in a remarkably short time. Retailers, stimulated into action by a rush of outside enquiries, began to clamour for the new furniture.

**PRODUCTION.** And so Morris came to be faced with a third problem. They had designed the furniture, they had advertised it—now they had to supply it, and that meant getting into top gear as rapidly as possible.

The most striking feature about the firm's production lines is their flexibility. The wooden components are moved along the lines from machine to machine by interconnecting roller conveyers. When the line switches from one component to another it is often necessary to switch machines too, and to enable this to be done quickly, machines are plugged into an electric cable running a few feet below the roof. When another type is required, the redundant machine is unplugged and removed by fork-lift truck and the new machine substituted. (The interconnecting roller conveyers also are movable.) To ensure that the operatives become proficient on the various types of machine (sanding, sawing, boring, etc.) they are transferred at frequent intervals to different sections of the line.

Assembly methods, too, are flexible, although in this case it is due to the fundamental design of the furniture rather than to any unusual production technique. All components are first of all stored. Then, as the orders come through, they are made up into the required products. This is yet another advantage of the "interchangeability" system—a system which Morris of Glasgow as much as any manufacturer in Britain has helped to perfect.



## Making the Most of Office Equipment—4

In this, the fourth and last article of the present series, attention is focused on the various methods of copying office documents and diagrams. Points in favour of each of the main systems are given, together with case-histories showing how three widely-differing organizations are "making the most" of their copying equipment.



*In the accounts department of Sweet and Maxwell. Ledger accounts are maintained on translucent sheets, photocopies of which are sent each month to customers*

# OFFICE COPYING

## Choosing the System to Suit Your Needs

### Photocopying

#### The System

Although photocopiers have been used for many years in drawing offices, they have only recently become popular for more general copying work. Now, however, as a glance at page 112 shows, at least 15 firms are manufacturing standard office photocopiers, the type of product they offer varying greatly in both price and performance. The particular machine described in this article is one of the more versatile and, consequently, more expensive models. (Approximate cost, £300.) It is, in fact, one of the diazotype, or "dylene" photocopiers, the main advantage of these being that they will reproduce all kinds of material at relatively low cost. In the case of documents reproduced direct from translucent masters, for instance, the approximate cost per copy is only 0.8 of a penny.

To understand what is meant by "direct reproduction," it is necessary to have a general idea of how dylene photocopying works. It is, in fact, a "bleaching" process. The original, or master, from which the copies are reproduced is made of a translucent material which allows for clear repro-

duction of printed, typed or handwritten material. This master is placed on top of a sheet of sensitized paper and the two sheets are fed together into the machine. There they are momentarily exposed to a powerful light which bleaches the yellow (sensitized) surface off the copy-paper, leaving in its place a faint impression of the words, diagrams or figures shown on the original. The two sheets are then automatically ejected by the machine and the operator passes the copy through a built-in developing unit.

When the master-copy is not on translucent paper, it is necessary to

make a translucency by means of an "auto-positive." This is produced by running the original through the machine with a sheet of auto-positive paper which acts as the master. Even then, the cost is less than 1d. a copy, provided that a number of copies are required.

The same machine incorporates a device for converting negative masters to positive copies, and there is also a special "transfer" process for use when one copy of the original is required.

Summing up, then, we can say that dylene photocopying is a method of reproduction which is (a) exceptionally cheap when short-runs are required, and (b) capable of reproducing almost any kind of material—even books—by either the direct or the "auto-positive" method.

#### Case-history

Although still relatively little-known, the use of photocopying in accounts work merits careful consideration by both large and small firms. A typical

*The Editor regrets that the name of Constructors Ltd., Tyburn Road, Erdington, Birmingham 24, was omitted from the list of strip indexing manufacturers given on page 126 of the November issue in the article "Three Ways of Keeping Compact Records." This firm's Seldex strip indexing has been on the market and in use by British firms since 1919.*

# Make your machine line **MOBILE**



By fitting the machines with Barrymount levelling mounts, a whole production line can be re-arranged to improve the flow of work, in a matter of minutes instead of hours . . . or days. Plant mobility can increase output and lower production costs.

Barrymount levelling machine mounts practically eliminate vibration. They do away with the old method of bolting machinery to the floor or to concrete foundations. Yet the machines will not "walk." External shocks and vibration are isolated, cutting down spoilage in precision machining. Noise from heavy and high-speed plant is reduced to a minimum: this means higher worker efficiency.



★ **STEP UP production**

★ **REDUCE costs**

- Machinery that moves with the times increases output
- Production lines can usually be improved
- Idle machines standing bolted to the floor are wasting space



**LEVELLING  
MACHINE MOUNTS**

"Barrymount" Isolators are made in England under licence from Barry Controls Inc. of U.S.A.

CB4

Write for technical bulletins:

**CEMENTATION (MUFFELITE) LTD., 39 VICTORIA STREET, LONDON, S.W.1 (ABbey 5726)**

A handsome Christmas gift he can use the whole year through . . . and for many years to come.

A "must" for the man with responsibilities! Neat, portable, Home Filing System, already indexed to cover comprehensive range of domestic and business subjects. Fitted with lock, 'drop-down' carrying handle, and secret compartment in the lid. In steel. Smart grey hammer finish.

## HOME FILE

**PRICE** $8\frac{3}{9}$ 

including 14/0 P.T.

Height 11½" × Depth 5½" × Width 16½"

**ANOTHER *Twinlock* PRODUCT**

**PERCY JONES (Twinlock) Ltd.**, 37 Chancery Lane, W.C.2. Telephone: CHAncery 8971

Showrooms: Glasgow, Manchester and Birmingham.      Factory: Beckenham, Kent.



example of the improvements it makes possible can be found at the Chancery Lane offices of Sweet & Maxwell Ltd., publishers of law books, who have been using a dyeline photocopier in their accounts department for just over a year.

Prior to the introduction of the machine, the accounts department had prepared their monthly statements by accounting machine in the orthodox way. This, of course, necessitated typing the customer's name on a new statement each month, and bringing forward the monthly balance. (Use of embossed plates for addressing statements was considered, but found to be uneconomical.)

Since the photocopier has been installed, the ledger accounts are maintained on translucent sheets. At the end of each month, these are taken from the filing cabinet and, if a sale has been made during the preceding month, are run through the photocopier. As the original and the copy come out of the machine, the original is placed on one side, ready for return to the file, while the copy is automatically folded and inserted into its envelope by another machine.

Briefly, then, the advantages of the system are:

*It saves the time previously spent on typing names, addresses, and balances brought forward;*

*It eliminates the mistakes so often made when transferring names, street numbers, amounts, etc., from one sheet to another;*

*It cuts out requests for details of "account rendered," the complete account now being available on each statement.*

During the weeks preceding the end of each month, the firm use the photocopier for reproducing statements classified as "sundry accounts"—in other words, the statements pertaining to customers who do not hold a regular account with the firm. In this case, the master from which the statement is obtained is itself a (carbon) copy of the invoice sent with the books sold, being subsequently treated as a ledger account.

## Stencilling

### The System

The principles of ordinary stencil reproduction are too well-known to warrant description. In this article, therefore, it is proposed to describe a lesser-known and rather more specialized stencilling system which uses a device known as a "stencil camera."

The main purpose of this is to provide a rapid and completely accurate means of reproducing written, typed or printed material—including extracts from books up to 1in. in thickness—from the original document. It is particularly useful, as the case-history below describes, for drawings and charts which can easily be "touched up," thus eliminating the need for a new drawing to be made.

Technically, the system combines the principles of stencilling and photocopying. There is, however, the difference that, while a photocopier takes each copy direct from the original, the stencil camera transfers the original on to a specially-sensitized stencil. Copies are taken from this stencil by the ordinary duplicating process.

A point worth noting is that, although the stencil camera originally had a fixed focus—which enabled only copies the same size as the original to be produced—a newer version will give "proportional reduction" from a maximum copy size of 21in. by 16½in. Purchase price of the fixed-focus camera is £260, and of the "reduction" model, £425.

### Case-history

About 18 months ago, the mimeograph department of the British Standards Institution (which turns out an average of 800,000 sheets each month) decided that the time had come to solve, once and for all, a difficulty which had beset them for years. This was the problem of how to produce copies of the hundreds of complex and highly detailed drawings and diagrams required for study by members of the 2,500 B.S.I. committees. For short runs (12 copies or under), photocopying usually sufficed. For longer runs, however, a more economical method—and one which could reproduce the frequently indistinct or messy drawings passed through to the department for copying—was required. Finally, it was decided to install a stencil camera, and this was done some 15 months ago.

The machine is used for three main purposes. First, for the reproduction of diagrams submitted by individual committeemen for study by their fellow-members; second, for the reproduction of illustrations taken direct from the pages of technical magazines and books; third, for the reproduction of intricate technical charts which would take up too much typing and checking time when reproduced on an ordinary stencil. On the average, 300 diagrams and documents are now reproduced each month by the stencil



*The reproduction of diagrams, charts and magazine illustrations for B.S.I. committees has been greatly speeded up by this stencil camera*

camera process, each one taking about 15 minutes.

The system has many advantages—the elimination of transcription errors, for instance, and the comparatively unlimited number of copies which can be produced from each stencil. So far as the B.S.I. mimeograph department is concerned, however, its greatest asset is the way it helps to save time—the time of:

*Drawing office* (whereas large numbers of diagrams previously had to be prepared, now only a few are sent for touching up);

*Typing pool* (where typing a complicated statistical chart direct on to a stencil might take a girl two or three hours); and

*Reading section* (which has to check the work of the typing pool).

These savings in time have been matched by a corresponding reduction in labour and other costs.

## Spirit Duplicating

### The System

The price of spirit duplicators varies quite considerably—from under £40 up to around £225. The most obvious differences between the cheap and expensive models is that, whereas lower-priced machines are all hand-operated and have a maximum speed of only 40 copies a minute, the more elaborate



*To ensure high-speed distribution of incoming cables, Overseas Farmers' use a spirit duplicator*

models are electrically-operated and have a speed of not less than 70 copies a minute. Higher-priced models also have an entirely automatic spirit- and paper-feeding system, thus ensuring that, however inexperienced the operator, first-class copies can be obtained. It is worth noting, however, that all spirit machines will reproduce in as many as seven colours simultaneously, and will handle either handwritten or typed masters.

These masters are produced on a sheet of paper backed by a "transfer sheet." This transfer sheet is similar in appearance to carbon paper, and is used in much the same way except that it is placed with the carbonized side facing the back of the paper. Thus, a back-to-front version of the written or typed matter is produced on the rear side of the sheet, and it is from this that the copies are made. If more than one colour is required, different-coloured transfer sheets are used.

When the master has been prepared, it is placed in the duplicator, and the copy-sheets are fed in. There they are damped by a pad containing a small quantity of spirit, automatically pressed against the reverse side of the master and ejected from the machine. The completed copies dry almost immediately.

The cost of spirit duplicating, apart from the machine itself, is negligible. To produce a master costs approximately 4½d., and the spirit needed for the machine is about 32s. a gallon. On an average, 300 clear copies can be

obtained from each master, and no less than 20,000 copies from each gallon of spirit, so that the actual cost per copy although partly dependent on the paper used, is quite small.

#### Case-history

One of the greatest assets of spirit duplicating is its *speed*. Nowhere is this more apparent than in the cable department of the Overseas Farmers' Co-operative Federation Ltd., the London office of a worldwide purchasing, marketing and distributing organization for produce sent to Britain and the Continent by affiliated producers in the Commonwealth. On an average, the department receives and despatches more than 500 cables each week, most of them by teleprinter.

One of the department's most important functions is the distribution of copies of the cables to executives and interested departments. In most cases, this has to be done in a matter of minutes, as the contents of the cable may well have a vital bearing on transactions then in the negotiation stage.

To ensure rapid distribution, therefore, a spirit duplicator is used to produce the copies. It does this in a matter of one or two minutes, and no processing is required beforehand. Here is how the system operates: a cable is received by teleprinter from one of the company's overseas branches. The teleprinter types on to a single continuous roll of paper backed by a reversed transfer sheet, and it is from this back-to-front side that the copies are produced. First, however, the cable is entered in the record book, and any inter-departmental information is typed on with an ordinary typewriter (also using a transfer sheet). The cable is then placed in the spirit duplicator, the reversed side uppermost. Copy sheets are automatically fed into the machine, and the copies run off.

To facilitate filing by the various departments, copies of the cables received are duplicated on to different-coloured copy sheets—blue for Australia, buff for South Africa, green for the Continent, and so on. Copies of all outgoing cables are also distributed—in this case, on white paper.

#### WHERE YOU CAN GET THESE SYSTEMS

##### Photocopying

**ASSOCIATED DRAWING MATERIALS & EQUIPMENT** Ltd., 28 Victoria St., London, S.W.1

**A. BREUER**, 57 Fairfax Rd., London, N.W.6  
**BURROUGHS ADDING MACHINE** Ltd., 354-364 Oxford St., London, W.1

**COPYCAT ASSOCIATED (MARKETING)** Ltd., 11 Southampton Row, London, W.C.1

**GRANT PRODUCTION Co. Ltd.**, 4 Rathbone Place, London, W.1

**J. J. HUBER** Ltd., Hubex Wks., Villiers Rd., Cricklewood, London, N.W.2

**ILFORD** Ltd., Ilford, Essex

**KODAK** Ltd., 1-2 Beech St., London, E.C.1

**LAWES RABJOHNS** Ltd., Decra Wks., Brooklands Rd., Weybridge, Surrey

**E. N. MASON & SONS** Ltd., Arclight Wks., Colchester, Essex

**OZALID Co. Ltd.**, 62 London Wall, London, E.C.3

**PHOTOSTAT** Ltd., 1-2 Beech St., London, E.C.1

**REMINGTON RAND** Ltd., 1-19 New Oxford St., London, W.C.1

**RUTHURSTAT** Ltd., 164 High Holborn, London, W.C.1

**A. WEST & PARTNERS** Ltd., 26 Broadway, London, S.W.1

##### Stencilling

**ANDREWS DUPLICATORS** Ltd., 104-9 Saffron Hill, London, E.C.1

**A. BREUER**, 57 Fairfax Rd., London, N.W.6

**BULMER'S (CALCULATORS)** Ltd., Empire Hse., St. Martin's-le-Grand, London, E.C.1

**CRUSADER MANUFACTURING Co. Ltd.**, Crusader Wks., Berwick Rd., London, E.17

**DUPL-O-PRINT Co.**, 57 Fairfax Rd., London, N.W.6

**ELLMS DUPLICATOR Co. Ltd.**, 5 Dean St., London, W.1

**FERMAPRINT** Ltd., 17 Fleet St., London, E.C.4

**GESTETNER** Ltd., Aldwych Hse., Aldwych, London, W.C.2

**GUTTERIDGE SAMPSON** Ltd., 151 Farringdon Rd., London, E.C.1

**H. A. MOORE & Co. Ltd.**, 4-5 Bridgewater Sq., London, E.C.1

**OFFICE MACHINERY** Ltd., 22 Kingly St., London, W.1

**REMINGTON RAND** Ltd., 1-19 New Oxford St., London, W.C.1

**RONEO** Ltd., 17 Southampton Row, London, W.C.1

##### Spirit Duplicating

**BLOCK & ANDERSON** Ltd., 58-60 Kensington Church St., London, W.8

**A. BREUER**, 57 Fairfax Rd., London, N.W.6

**DUPL-O-PRINT Co.**, 57 Fairfax Rd., London, N.W.6

**FORDIGRAPH SALES**, 35-4 Rathbone Pl., London, W.1

**MAX LOVE "CONTINUOUS"** Ltd., 19 Tudor Pl., Tottenham Court Rd., London, W.1

**OFFICE MACHINERY** Ltd., 22 Kingly St., London, W.1

**VALMOR** Ltd., 35-36 Eagle St., London, W.C.1

**FOR ALL  
BUSINESS FIGUREWORK**



## **The DUOLECTRIC**

electrically powered calculator with the  
mechanical memory. Latest in the  
SUMLOCK range of over  
30 different key driven models.

**SUMLOCK LIMITED**

1 Albemarle Street, London, W.1. HYDe Park 1331

*BRANCHES:— Belfast, Birmingham, Bristol, Cardiff, Glasgow, Leeds, Leicester, Liverpool, Manchester, Newcastle, Nottingham, Sheffield, Southampton*



## **CONTINUOUS STATIONERY** the modern way

The typist—a vital link in the chain of production, marketing and distribution. Through her typewriter flow the Works Orders, Despatch Notes, Invoices, Purchase Orders and the many other forms essential to business. Far too often, however, her production suffers through unnecessary repetitive typing, and time wasted in the handling of carbon paper and loose forms.

If this is your problem may we show you how the Econojet Typewriter Attachment, with Econoset Continuous Stationery, reduces unproductive operations to the barest minimum.

**PETTY AND SONS LIMITED**

---

Whitehall Printeries · Leeds 12  
Telephone: LEEDS 32341

To satisfy the needs of every Austin and Rover owner in the Republic of Ireland, Lincoln and Nolan Ltd. have to maintain a huge stock of spare parts. They ensure that every item is under constant review and kept up to the level of demand by using visible records in their stock control.



*The staff of the records section work to a rota, periodically changing duties with their colleagues so that they are able to do any job in the department*

## Controlling 20,000 Stock Items with Visible Records

**M**AINTAINING a stock of more than 20,000 types of parts and accessories for motor vehicles, and controlling their distribution throughout the 26 counties of the Republic of Ireland, is a task calling for carefully-planned organization. This undertaking is made even more formidable for the Dublin firm of Lincoln and Nolan Ltd., sole concessionaires for Austin and Rover vehicles in Eire, by the fact that almost all their supplies have to be transported across the Irish Sea from England.

The company, who assemble vehicles for the Irish market, have a spare parts department which operates independently. To ensure that their stocks of spare parts are kept, as far as possible, up to the level of demand—but at the same time to avoid overstocking on commodities which might become obsolete and involve the firm in serious financial loss—they have devised a system of stock control employing visible records.

Since the development of their system has gone hand in hand with the company's expansion, a note on the

establishment and growth of the firm is relevant. The original company were founded in 1923 to distribute General Motors products, and within four years they were given the Austin sales franchise for the whole of the former Irish Free State.

But the company in their present form really owe their existence to legislation passed by the Irish Government

**By PAUL BENNETT**

in 1933 which forbade the importation of complete cars; henceforth, with the exception of higher-priced vehicles, cars for the Irish market had to be imported in pieces and assembled by Irish labour.

Lincoln and Nolan saw their opportunity—and went into the assembly business. A new factory was put up in Dublin, personnel were selected for training at the Austin Motor Co., Longbridge, Birmingham, and the first shipments of cars in completely knocked down condition began to

arrive from England. Assembly began in May 1936, and as the first Irish-built Austin began to filter onto the market spare parts had to be made available. A spares department was set up, but it had scarcely got going before the outbreak of war, and the factory was forced eventually to close down for the duration.

In 1946 Lincoln and Nolan picked up the threads again. The assembly of cars, vans and lorries rose steadily, and in 1948 the company took on the assembly of Rover cars. But a spare parts service had to march hand in hand with the production side of the business, and it was about this time that the foundations of their present spares organization were laid.

Their control system has to operate within the framework of the following special considerations:

1. Almost all their supplies are sent from England. Because of the transport problems involved they have to plan their stocks well in advance, although remaining within the physical limits of their storage space.

2. They have to supply *all* the needs of 45 main dealers and 71 retail dealers scattered throughout Eire, as well as the private motorists who are served over the counter at their own showrooms. In effect, they have to carry a stock of every item which goes to make up any of the vehicles they handle, from nuts and bolts to complete car bodies.

3. They carry spares for models go-





*Retail orders received over the counter of this modern accessories department are also entered in the stock control records*

ing back as far as 1933; as new models appear on the market, the system has to be flexible enough to accommodate them. In this respect their motto is: As long as the manufacturers make the spares and there is a demand for them, they will stock them.

In dealing with such a vast number of parts and accessories it is clearly of the greatest importance that a close check is kept on all orders for every item in their stocks. They do this in the records department—the hub of the company's stock control administration—where more than 20,000 items are listed.

The records are housed in 24 cabinets, each containing 15 flat pull-out trays. In each tray there are 60 double-sided flaps representing individual spare parts. On the underside of the flap is fitted a card which deals with stock consumption, giving a month-by-month picture of the rate at which stocks move.

A square is provided for each month, up to a total of six years, in which the monthly sales are noted. Other panels list the part's invoice price, discount, landed cost, retail price, and duty rate. There are many different duty categories applicable to the importing of spare parts, so every item in the records must be coded with the appropriate duty rate. This information is essential for preparing the customs entry which has to be made for every consignment received, whether by railway container or air freight service. There is also space for noting the part's location in the stores, supercedence notes, and general remarks.

On the upper flap is fitted a card for stock control which deals solely with orders. When the monthly order goes off to the manufacturers, the date, order number, and quantity required are noted in red ink in the columns provided. When the order has been fulfilled by the manufacturer, the supplier's invoice number and the order number are co-related and are recorded, together with the date and the

quantity received, in blue ink.

The same procedure is used for orders which come in to Lincoln and Nolan from their customers and which cannot be fulfilled immediately from stock. Irrespective of whether the order is received by mail, telephone, or over the counter of their showrooms, a back order card is created, quoting the part number, description, quantity, customer's order number, the date, and the address. A copy of this is sent to the customer.

This back order card is checked with the control to ensure that a sufficient quantity is on order to cover the demand in question. (If not, and unless the monthly order date is close, a special order is immediately despatched to the manufacturers). The customer's name is then recorded in red ink on the stock control card, the quantity required being entered in a separate column which is reserved for outstanding orders. This ensures that when stocks come to hand no outstanding

order will be overlooked, and also that outstanding orders are fulfilled in the sequence in which they were received.

Sometimes it is not possible to fulfil a complete order, and provision is made on the underside of the back order card in which the quantity still to be despatched is recorded, together with the invoice number, date, and price. Here, too, there is a column for the balance outstanding, and this figure is adjusted to agree with the control card.

The back order card is then placed in a special file which is kept in alphabetical and numerical sequence to correspond with the stock control records. When supplies are received and are allocated to the outstanding back orders, the despatch of the goods is recorded in blue ink on the stock control card, using the invoice number as a reference. The back order entry which was made in red ink on the stock control card is then crossed out or reduced in quantity accordingly.

Coloured signals play an important part in the system. It sometimes happens that certain parts are in temporary shortage at the manufacturers. When this information has been received, a note to the effect (perhaps one to three months' delay) is written in blue ink alongside the order entry on the stock control card, together with the date on which the information was obtained. Simultaneously, a purple plastic signal is attached to the bottom of the card.

As a result of the distances and time factor involved in clearing a consignment of parts through the Irish customs, it is essential that the company receive advance copy invoices. As soon as these are received, they are put into the stock control records to have the duty category and stores location recorded against each item. At this stage, a black and white striped signal is placed on the card.

This signal is particularly useful. When a customer's enquiry is received, the staff, on spotting the striped signal, can usually reply that stock is on its way and they can forecast an approximate delivery date.

When parts are on back order, an orange signal is attached. Each signal represents a quantity of from one to 12, so if there are a number of them attached to the card, the staff can tell immediately that there is an appreciable demand for the item. This information is then passed on to the head of the department who, if he thinks fit, may contact the suppliers and attempt to expedite deliveries.

Green signals are attached whenever

## 4 Points From The System

- 1—Stock consumption card shows monthly sales figures for past years, indicating past and probable future demand for individual items.
- 2—Each stock control card records existing level in stores, orders to and deliveries from manufacturers, and customers' orders waiting to be fulfilled.
- 3—Special back order file deals with demands from customers for items temporarily out of stock.
- 4—Coloured signals in records spotlight current stock, order, and demand positions.

# ***A Startling New Development***

## **'NO-CARBON' PAPER**

Paper which, of itself, produces multiple "carbon copies" without the use of carbon paper, or any visible backing substance.

### **JUST LIKE MAGIC**

There is no visible reason for the appearance of the multiple copies. It has to be seen to be believed.

### **FIRST IN THIS COUNTRY**

Leading the field, we can now supply "No-Carbon" Continuous Forms printed up to our usual very high standard.

This revolutionary new product is based on a chemical system developed and patented by the National Cash Register Company.

This paper has been used in America for over 18 months and we have been fortunate in having

at our disposal the experience of one of the leading manufacturers of Continuous Stationery in that country.

Our own tests have been completed and we can now supply Alacra Continuous Forms in this medium.

*Write for full details to :*

## **ALACRA LTD.,**

(A subsidiary of W. H. Smith & Son Ltd.)

**WESTERN AVENUE, LONDON, W.3.**

an order has been submitted to the manufacturers and is still unfulfilled. Each represents a three-month period; if one signal is attached it means that the order has been placed for anything up to three months. If there are two green signals it means that the order has been placed for between three and six months.

Orders for spare parts are submitted to the manufacturers every month on an agreed date. This date has to be strictly observed, since the manufacturers operate a tight schedule and detail staff to be ready on this date every month to deal with the Dublin firm's orders. If the order were late arriving, the manufacturers' staff would be assigned to other orders and Lincoln and Nolan would have to take their turn at the end of the queue—possibly with dire results to their relations with customers.

The company's monthly orders, which deal with such a vast amount of goods and involve considerable sums of money, have to be compiled with great care. Overstocking must be avoided; although their recently-built warehouse is very large and is a model as regards the efficient use of every available scrap of space they have to conform to its physical limits. But on the

other hand, they are bound by the terms of their franchise to provide a first-class parts service to Austin and Rover owners throughout the 26 counties.

Owing to lack of continuity in supplies, Lincoln and Nolan do not operate on a maximum/minimum basis. They have to assess accurately the demand for each and every item used in the construction of every model in the range of vehicles which they handle. Here, their records system comes into its own.

### Individual Check

Every item in the records is scrutinized individually. The stock consumption card is extremely valuable here since it shows the movement of stock over preceding months, and indeed years, thus giving a picture of past demand and a pointer to future demand. All relevant data about each item—amount in stock, amount already on order (if any), quantity on back orders, and past consumption—is entered on a pre-order sheet which then goes to the parts manager, R. D. Magill.

Mr. Magill, who played a major part in devising the stock control system, thus has before him a comprehen-

sive picture of his stocks. From this he is able to decide, with a minimum of effort and guesswork, what requires replenishing and the amount required to meet probable demand.

Every attempt has been made to ensure that the system is as automatic and foolproof as possible. By breaking it down into a number of simple operations they have obviated the need for any one person to carry a store of intricate knowledge in his head. All information which is likely to be required about any spare part can be found quickly and simply in the records. Provided each clerk carries out his or her operation efficiently, the system looks after itself.

The records staff—there are 11 of them—work to a rota, periodically changing jobs with their colleagues. Besides having the advantage, from the staff point of view, of providing a greater variety of work and a reduction in monotony, this scheme also ensures that the staff are versatile and have a wider understanding of the work of the department as a whole. In this way, staff absence through illness or during the holiday season is calculated to make a minimum disturbance to the smooth-running of the stock control department.

## Electrical Products by...

# GENTS' OF LEICESTER

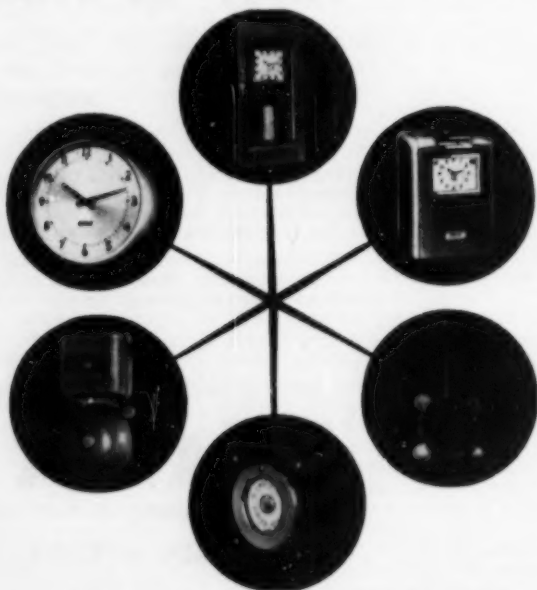
- SYNCHRONOUS MAINS CLOCKS
- ELECTRIC MASTER CLOCK SYSTEMS
- PROGRAMME INSTRUMENTS
- TIME RECORDERS
- TOWER CLOCKS
- WATCHMAN'S CLOCKS
- STAFF LOCATION SYSTEMS
- FIRE ALARM SYSTEMS (Manual and Automatic)
- BELL & INDICATOR SYSTEMS
- LIQUID LEVEL INDICATING RECORDING & CONTROL EQUIPMENT

Comprehensive illustrated literature FREE on request

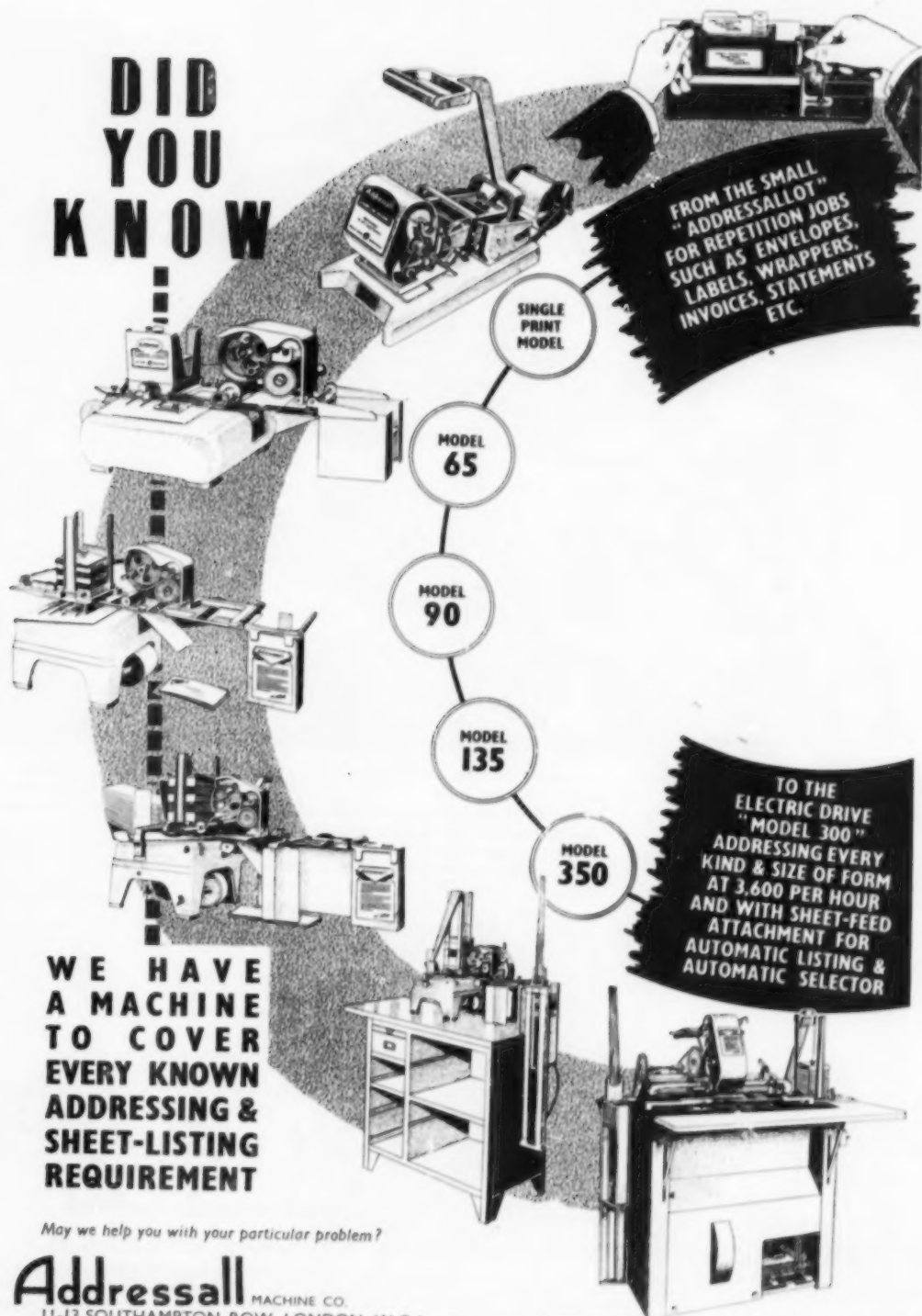
**GENT & COMPANY LIMITED • FARADAY WORKS • LEICESTER**

London Office & Showrooms: 47 Victoria Street, London, S.W.1.

Also at: BELFAST • BIRMINGHAM • BRISTOL • EDINBURGH • GLASGOW & NEWCASTLE



# DID YOU KNOW



**WE HAVE  
A MACHINE  
TO COVER  
EVERY KNOWN  
ADDRESSING &  
SHEET-LISTING  
REQUIREMENT**

*May we help you with your particular problem?*

**Addressall** MACHINE CO.  
11-13 SOUTHAMPTON ROW, LONDON, W.C.1

DECEMBER, 1955

Telephone: Hulseborn 3571-2

Get me  
**DUBILIER**  
—quick!!



The electricity bill was something of a shock for George—but to see the cause of it—standing there—nibbling at its amp sandwich—was more than flesh and blood could stand. Fortunately, George is a man of action when his blood is up. He is taking the only sensible course.

**Are you paying for electricity you don't use?**

**Are Amp Eaters rampant in your works?**

**Do you want to know more?**

Good! Then write your name and address in the margin of this advertisement and post it to us. We will send you by return our eight page, 2-colour leaflet which tells you all about the Amp Eater and his machinations.

# DUBILIER

**DUBILIER CONDENSER CO. (1925) LTD., DUCON WORKS, VICTORIA ROAD, NORTH ACTON, W.3**

Telephone: ACOrn 2241.

Telegrams: Hivolcon Wesphone, London



# Advantages of Good Records Management

By ANTONY BILLINGTON

Many otherwise efficient firms neglect their filing and records systems. But here is a case-history of how Megator Pumps & Compressors Ltd. installed a centralized filing system and put it in the charge of a responsible person. This has saved staff time and has facilitated the handling of customer enquiries.

IT is an absurd fact today that in spite of the progress made in administrative methods, records maintenance is a "Cinderella" in many organizations. Firms which use punched cards for sales analysis, electronic computers for accounting procedures, and a host of modern systems and methods in their offices and factories, still file vital records as haphazardly as they did 50 years ago. Some may have gleaming filing cabinets and neat file containers, but no system. So valuable time is wasted because files needed urgently have gone astray, or because they are located amidst a mass of other matter, and the seeker "cannot see the wood for the trees."

There is hardly a firm of any size which does not have accounting in the charge of a qualified person, or production the responsibility of a trained man. Yet filing is often the divided responsibility of several junior staff. The reason is usually that most executives consider filing and records are straightforward procedures that "anyone with common sense" can do. When the filing system breaks down, and records cannot be found—as frequently happens—the usual course of some managements is to impute a lack of that "common sense" to the luckless

clerks who have been entrusted with the work.

The truth is, of course, that the proper maintenance of records is one of the most complicated procedures in office routine. Many books have been written about it, containing a wealth of detailed information, without by any means exhausting the subject. In the United States, business training colleges have, in recent years, instituted

courses to train records management officers.

The secret of successful records maintenance is to vest the control of them in one person, who is fully trained and can therefore be given complete authority for them. There are not many companies in Britain—or in other countries either—who employ records management officers. Smaller firms cannot generally justify such a post. But there is no reason why they cannot take a clerk, known for his neatness and accuracy, and see that he is properly trained for this work.

Hospitals in this country have medical records officers, who have status and authority. While it may be true that medical records are involved and must be accurately maintained, the dealings of many business houses are at least as intricate and deserve to be properly recorded.

For some people the term "records management" is synonymous with centralized filing. This conjures up a mental picture of a vast department in which all a company's records are housed, where records are lost, or at least where a wait is entailed for some wanted document.

Centralized filing, it is true, has its disadvantages. By no means all companies could install it. For instance, in a large office on several floors, if every document was filed centrally it might mean delay when a letter or some other record was wanted urgently.

There is no reason, however, why documents relating to a subject which concerns several departments in one organization, should not be filed centrally. Obviously, records which concern only one department are better kept in that department.

Whatever system is adopted, there is



*Sales of Megator pumps are backed up by an efficient spare parts and overhaul service. The firm's centralized filing system has helped considerably the work of their service department*

certainly a need to keep an inventory of records, so that they may be located instantly and exactly. There is a case for centralized control, managed by a responsible person who is given absolute authority. All files need not be in one physical location to enable control over indexing, filing and finding of records.

When files are under departmental control, as distinct from centralized, there is an uncertainty of the completeness of records on any particular subject. Furthermore, it is sometimes difficult to fix responsibility for failure to follow a certain course. From an economic standpoint, it often means work is duplicated in different departments, and equipment is not used to best advantage.

The following case history shows how one expanding company provided one branch of their activities with a form of centralized records control. There are degrees of centralization, and this example indicates that companies need not go to extremes when streamlining filing systems. Although sales records of this firm are centralized, other records remain in the charge of the respective departments.

Megator Pumps and Compressors Ltd. have grown quickly. Started in

1946, with a staff of four, they are now well-known, dealing with a great variety of engineering firms and nationalized industries, also exporting to many countries.

They market a highly-specialized, completely self-priming pump which has many applications. They are constantly finding new markets, which means that their administration is always expanding. Although the head office and sales department are in London the pumps themselves are manufactured in Yorkshire. This too has brought its administrative problems.

### Revisions

Their filing system has been revised at various stages in the company's brief history. At first all orders which came in were put in a lever-arch file in order of sequence and separated only by a manila sheet. All orders were given a sequence number prefixed by "S" (for sales) regardless of whether the order covered an actual pump or spares.

All correspondence, including that relating to orders, was filed separately in alphabetical order (under customers' names).

When an order had to be located it

was first necessary to search through correspondence files to find the order number; then the order was tracked down in the lever-arch file.


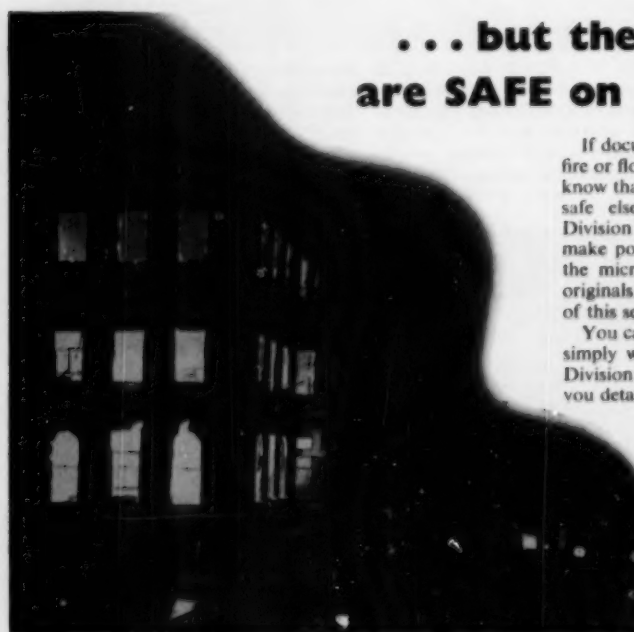
As orders increased, the order file became crowded, and as orders for pumps and spares were intermingled, searching among them was a tedious process.

The first step the company took in reorganizing their filing system was to segregate pump and spares orders. The former were given a number prefixed by "J" (signifying Job), the latter remaining under the code letter "S" (which now, of course, stood for Spares). At the same time, they decided to put pump orders in manila folders (one to each order), still in numerical sequence.

Concurrently, they instituted a system of cross-indexing orders from the same customers. Every time an order was acknowledged, a copy (known as a sales general copy) was put in the general alphabetical file. An obvious disadvantage which still remained was that there were still two sources of reference.

At this time the files had no special location. The equipment then consisted of one four-drawer and one two-drawer cabinets. ("S" orders, inci-

## ... but the business records are SAFE on microfilm



If documents are destroyed by fire or flood, what a relief it is to know that microfilmed copies are safe elsewhere. The Recordak Division of Kodak Limited can make positive paper prints from the microfilms—exact facsimiles of the lost or damaged originals. Many organisations have already proved the value of this service.

You can microfilm all your business records quickly and simply with a 'Recordak' Microfilmer—or the Recordak Division of Kodak Limited will do it for you. May we send you details?

**RECORDAK**  
DIVISION OF **Kodak** LIMITED

1-4 Beech Street, London, E.C.1  
Tel: Metropolitan 0316  
and at 11 Peter Street, Manchester, 2  
Tel: Blackfriars 6334/5

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

"Recordak" is a registered trade-mark

Photo by courtesy of WEST HERTS ADVERTISER and ST. ALBANS TIMES

## Right off the beaten track

*Take one towpath. Lay rails on a foundation of ashes. Next, place one steam travelling crane on track. If you now begin loading and unloading, the chances are your crane will end up end-up. (See illustration).*



### What Vulcan say about it

Poor track formation is too often the cause of accidents to travelling cranes. Once again, prevention of disaster means scrupulous inspection and maintenance of all temporary rail tracks. Once again, Vulcan are the experts to turn to.

Engineer-Surveyors from Vulcan Insurance spot danger before the trouble starts, and industrial machinery is their happy hunting ground. Cranes, lifts, hoists, boilers, vacuum vessels — any and every plant comes under their eagle-eyed scrutiny, and gets the specialist going-over for which Vulcan is renowned. In a sentence, safety first is Vulcan first.

#### VULCAN INSPECTS—AND PROTECTS



**FREE.** For news of industrial accidents and ways to avoid them, ask us now for 'Vulcan', a quarterly journal for Power users. Please write to Dept. 4

## THE Vulcan

BOILER & GENERAL INSURANCE CO. LTD.

67 King Street, Manchester 2

## Whatever the task

Tan-Sad have specialised in occupational seating problems for over 30 years and have produced a range of office and factory seats for every trade and operation. From head office to assembly plant, your seating problems will be more efficiently solved by contacting our group of skilled specialists.



## Tan-Sad make it easier

*for further details of Postural Seating for Industry and Commerce write now to:*

THE TAN-SAD CHAIR CO. LTD • AVERY HOUSE • CLERKENWELL GREEN • LONDON • E.C.1 • CLERKENWELL 3192

dentally, were still in lever-arch files.)

Various people had occasion to consult the files, including executives and service personnel. The latter would spend a great deal of time trying to locate where spares had been delivered. This meant first looking up customers, then finding how many pumps had been sold, by looking through "J" numbers, and then going through the "S" files. But time is a valuable commodity in any service department.

When the company decided to overhaul their filing system they aimed at getting the "whole customer's story" together in alphabetical order under the customer's name. This led to the centralization of all sales matter relating to actual orders. This is now filed by customer's name in alphabetical order in suspended files. All orders for pumps are kept in manila folders which are placed in their respective files. A file now contains correspondence and a number of folders for the orders carried out. These files, relating to pumps, are buff.

Spares orders are filed in the same way in blue files. Where there are a sufficient number of spares orders, the file is located behind the pump order file.

General correspondence, which can-

not be tied down to any particular order (either pumps or spares) is kept in red files, and again—when the amount justifies it—located near the buff file bearing the same customer's name.

A woman member of the staff is in charge of all sales records. As orders are received, she records them in a foolscap book and allocates "J" or "S" numbers. She puts each order in a folder and passes it to the sales department head, who takes what action is necessary. Then the folder passes on to the progress manager. After being acknowledged, the order is returned to the filing department for filing. Advice notes and invoices are also kept in the files.

### Quick Reference

So that quick reference can be made to customers' order numbers, a card index system is kept. Split into territories, customers' names are recorded alphabetically, and against the names appear all order numbers relating to them.

The files can be located quickly since they incorporate a tab, which spans the entire top of the file, carrying the customer's name and address.

There are coloured code marks to prevent misfiling.

Export orders are filed in the same way as home sales. In the export cabinet, files are in alphabetical order of country, then each customer in each country is also filed alphabetically. Colour coding is used to distinguish the company's different overseas agents.

Each department which has access to the files has a colour code. When a file is taken out by a department, an empty manila folder, which is coloured accordingly, is inserted in its place. This not only shows that a file or folder is missing, but also indicates where it is.

The advantages of the new system are briefly as follows:

- 1—Orders can be referred to quickly—particularly important when a customer is on the telephone.
- 2—The entire history of a customer's orders can be speedily assessed.
- 3—Less time is spent in filing and searching.
- 4—Papers are not easily lost.
- 5—There is a saving in space, since all files are kept together.
- 6—Executives' time is saved because they are not kept waiting for files.
- 7—The files are neat and compact, last longer and keep cleaner.



Feathered fingered Freddie and Frankie the Fence frequently find they are frustrated from keeping in touch. Why be in the same boat? You can make instant contact with INTEROFFICE TELEPHONES. Put a phone in every office, rented for as little as 1/3 each a week.

**Internal Telephones  
Factory Broadcast Systems**

AP 161/190



## INTEROFFICE TELEPHONES LTD

18-20 York Buildings, Adelphi, London, W.C.2

Phone: TRAfalgar 3824 (P.B.X.)

64 Washway Road, Sale, Manchester. Phone: Sale 2205-6



## *Is there money in your waste paper basket ?*

Don't throw away waste paper—  
let us collect it for you. We pay generously  
for clean waste paper. Just drop  
a note or telephone :—

**Alexander Jacob & Co. Ltd.**  
**THE LONDON WASTE PAPER CO.**  
SCUTH WHARF, ST. LEONARD'S STREET, LONDON, E.3.  
Telephone : EAST 3841.



### **MADE TO MEASURE** *for* **CODING IDENTIFYING CLASSIFYING**

Illustrated are impressions of characters and figures of special numbering machines. They meet the many diverse problems of coding, classification and identification and are widely used in the Ball Bearing Industry and for the overprinting of labels, shirt and collar size marking, Jacquard card sequences, the printing of optical formulae, and for multi-impressions through carbon backed forms.

ENM can solve your problems by supplying high grade machines made to meet your special needs



### **ENGLISH NUMBERING MACHINES LIMITED**

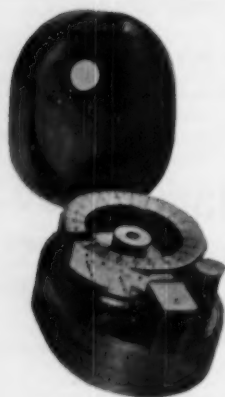
(Dept. 3b), Queensway, Enfield, Middlesex. Tel.: Howard 2611/5 Grams: Numgravco, Enfield

DECEMBER, 1955



# BLICK

## WATCHMAN'S CLOCK



**WHEN YOU INSTALL THE BLICK SYSTEM** — you will be able to see at a glance whether your Night Watchman is carrying out his important duties conscientiously and in the way recommended by Scotland Yard which virtually removes all risk of your premises being broken into. Write now for free 12-page booklet explaining the special method recommended by Scotland Yard and describing the BLICK System in detail with all its unique advantages.

**BLICK TIME RECORDERS LTD**  
 96-100 ALDERSGATE STREET, E.C.1.  
 MONarch 6256

# Flo-master

## FELT TIP PEN



POCKET  
SIZE

*marks on  
ANY surface*

*and STENCILS too!*

KING  
SIZE

WITH FELT TIP →  
 WITH INTERCHANGEABLE  
 STENCIL BRUSH HEAD →



Flo-master is made in two sizes—the Pocket Size for universal marking in office and factory, and the King-Size for heavy industrial use and for stencilling.

Fade resistant inks available in 10 colours.

Interchangeable felt tips provided for different line thicknesses.

Send for the Flo-master leaflets.

CUSHMAN & DENISON CO., LTD.  
 Dept. G, 124 Vassall Road, London, S.W.9.

Telephone: RELiance 5268-9



"ORDER ANOTHER VEHICLE?... LET'S SEE  
WHAT THE CHARTS SAY..."

"... they show clearly that every one of our present fleet regularly starts on time and keeps hard at it right through the day—usually earning overtime as well. Yet we're still behind on deliveries. No doubt about it, ... the purchase of another vehicle will be fully justified and will solve our problem. Order a Servis recorder for it at the same time.

Thank you Jackson, for presenting the case so clearly—"

... and thanks to the **SERVIS  
RECORDER SYSTEM**

The simple, low-cost way to the VITAL FACTS you need for EFFICIENT management of machines and vehicles.



## Gives character to your correspondence!

The name HERMES is renowned the world over for quality. In design, performance, and general efficiency HERMES typewriters are really outstanding, and models are available for all classes of work from £30.0.0d.

*HERMES  
Ambassador*

The HERMES Ambassador is a boon to the busy typist. It makes possible the production of better work, and takes the effort out of typing. Bold and original in conception and construction, it is a machine which anticipates the needs of the future. Available with either Manual or Electric carriage return, it embodies many new features designed to increase efficiency and reduce fatigue.

Before you decide, be sure to see the HERMES range.



The HERMES 2000 is a light office machine which, by the addition of a carrying case, can be transformed into a portable typewriter in seconds. Modern in both design and finish, it provides those features which make typewriting a real pleasure.



*HERMES  
2000*

**HERMES**  
SWISS  
PRECISION TYPEWRITERS

*Sole Agents for Great Britain:*

**OFFICE EQUIPMENT DISTRIBUTORS (B.T.L.) LIMITED**

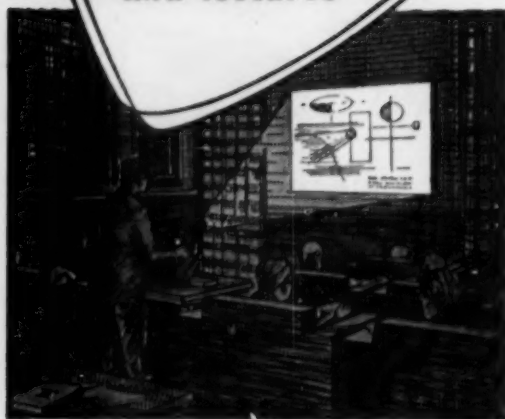
Head Office & Works: Dept. B6 West Bromwich.

Tel: W. Bromwich 2331

London Offices & Showrooms: 31/33 High Holborn, W.C.1. Tel: HOLborn 0936

Stockists throughout Great Britain

## **WEST** lantern slides at meetings and lectures



We at "WEST" are proud to include among those for whom we make Lantern Slides, a number of famous Industrial Organisations whose standards are as exacting as our own. . . .

Diagrams, photographs and charts follow each other across the screen to build up a clear incisive picture, often beyond the descriptive power of words alone.

Such things as technical data and marketing techniques are often complicated and difficult for an audience to follow, and the quality of your Lantern Slides can make a lot of difference.

That is how we see it, and why we spare no pains to make the best of every picture in every Lantern Slide we produce.

**WESTY SAYS:**  
For prompt service  
ring ABBey 5325.



# **WEST**

## **LANTERN-SLIDES** make things clear

A. WEST & PARTNERS LTD. (established 1888)  
4 ABBEY ORCHARD ST., WESTMINSTER, LONDON, S.W.1



## **MAN POWER**

Time on the job enters into every stage of industrial production.

Arrivals and departures, time on the bench or machine, breaks for meals and overtime are all related to cost of production.

GLEDHILL-BROOK Time Recorders provide the most adaptable means of recording regular or irregular hours on the job, automatically and accurately, every minute of every hour day and night.

With 8-day mechanical clock movement or electrical operation.



## **IS TIME POWER**

Write for full information  
and illustrated leaflet to

**GLEDHILL-BROOK TIME RECORDERS LTD**  
38 EMPIRE WORKS :: HUDDERSFIELD

## for the perfect secretary . . .



Rental and hire purchase facilities available.

**Smith-Corona**

## "Eighty-Eight"

Newest and finest in a famous range. New instant-set margins . . . new feather light touch . . . new Keylever action. See it . . . try it . . . in your own office. For demonstration and trial, ring Euston 3411 now and ask for Mrs. Ellis.

and for personal use

**Smith-Corona**

Portables

## **Smith-Corona**

(Gt. Britain)  
LTD

52-56 OSNABURGH STREET, LONDON, N.W.1 Tel. Euston 3411  
D148/2391

# One pair of hands...

**WILL DO THE  
WORK OF  
dozens**

— one Bradma Machine in your office saves time, labour and costs. Invoicing, Statements, Dividends, Wages and Salary Lists, Pay Envelopes and Addressing, can all be handled with amazing rapidity, by accurate, economical Bradma



**WITH**

**Bradma**

**British ADDRESSING MACHINES AND BUSINESS SYSTEMS**

*Manufactured in Great Britain for the markets of the World by*

**ADREMA LIMITED, Telford Way, London, W.3. Tel: SHEpherds Bush 2091**

**BRANCHES AND AGENCIES THROUGHOUT THE WORLD**

## *setting for success*

Here sits a man whose work is made pleasanter and more productive by Leabank office furniture. Designed with imagination to evoke sustained efficiency by creating new standards of comfort, Leabank equipment sets the scene for success. These examples are from the "General Purpose" series; send for details of the full Leabank range.

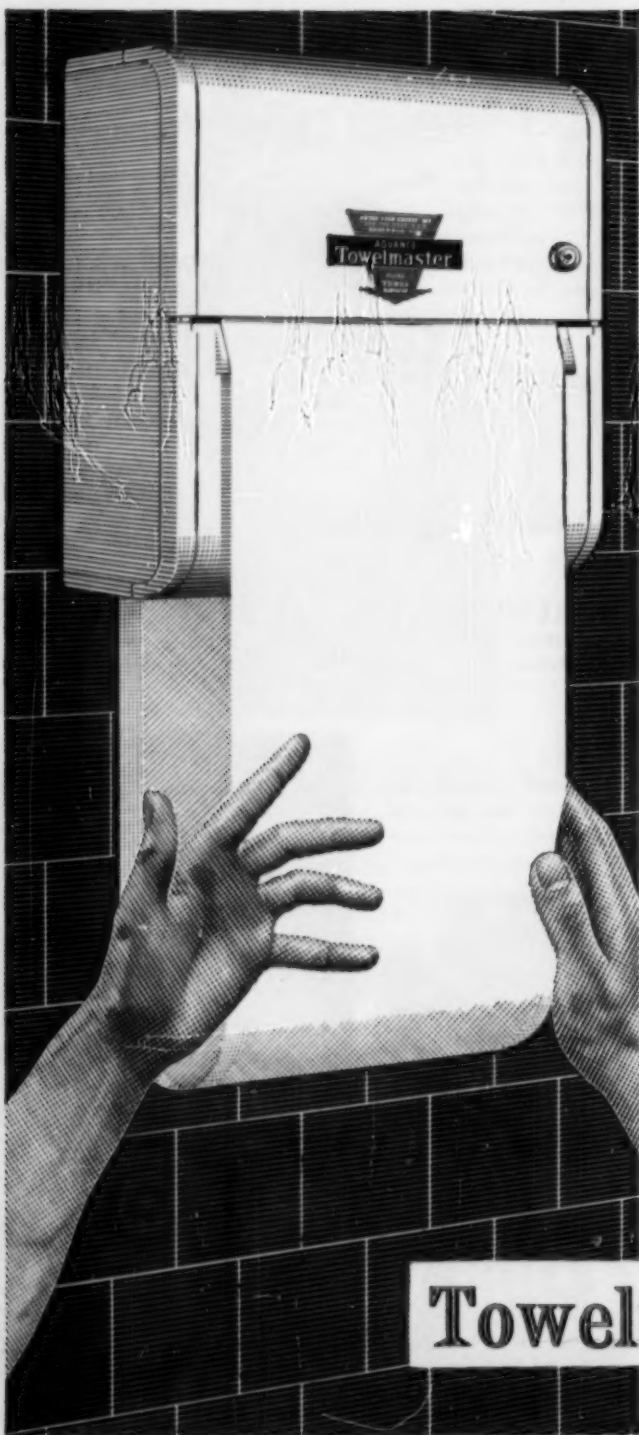


**LEABANK**

**LEABANK OFFICE EQUIPMENT LTD., 19 Clifton House, Euston Road, London, N.W.1.**

DECEMBER, 1955

129



## Clean dry healthy hands— three pairs a penny

Have you seen the Towelmaster—the gleaming white cabinet that, for 5/-, gives 180 pairs of hands an honest-to-goodness dry on individual spaces of laundry-fresh towel?

Nothing could be more efficient. Yet the cost is small and can be accurately estimated for the year ahead.

There is no capital outlay. A minimum of two cabinets is installed and maintained free of charge. All you pay is 5/- for each roll of towelling used—minimum usage is only one roll per cabinet per week. Moreover the Towelmaster represents an indirect saving of labour as it eliminates time spent collecting and distributing individual towels.

Towelmaster cabinets add prestige to every office and factory; the efficiency of their operation increases goodwill amongst staff and visitors alike. For a small investment, it pays rich dividends—not the least of which is a clean bill of health.

*We'll be glad to discuss your particular needs—without obligation.*

**ADVANCE**

# Towelmaster

Advance Linen Services Ltd (Dept T22)  
Stratton House, Piccadilly, London W1  
Telephone: Mayfair 8886





*The physiotherapy department of Briggs' Motor Bodies Ltd., housed in a modern medical centre, is as well equipped as those of most hospitals. Although most cases treated arise from accidents in the works, patients are often referred to it by outside doctors and hospitals*

# How Physiotherapy Helps Production

By ERIC SMETHURST

**A works physiotherapy department is not just a welfare scheme to boost workers' morale. Its main function is to keep production moving smoothly by speeding the return to work of sick and injured personnel. The physiotherapist can also prevent accidents and complaints by suggesting steps to eliminate hazards in the factory.**

**T**HE value of physiotherapy needs no stressing today. It has become an important part of modern medical practice. This is evident from a recent Ministry of Health report, which states that about 1½ million physiotherapy treatments are given in a year.

Most physiotherapists are employed in hospitals and private practice, treating general conditions. There has, however, been a tendency in recent years for a number of them to enter industry, joining the medical teams of companies, where they specialize in the treatment of cases which arise from industrial accidents and complaints.

A works physiotherapy department holds obvious advantages for workers and physiotherapists, but what benefits has it for managements? Why have a physiotherapy department when such facilities are provided by hospitals?

Although some companies may have installed a physiotherapy department

purely on humanitarian grounds, there is no reason at all why one should be regarded as "just another welfare scheme." There are two main advantages of a works physiotherapy department:

1—It keeps production flowing smoothly by reducing absenteeism caused by accidents and illness. It not only allows convalescents to return to work early, but can actually prevent accidents and ailments.

2—It is good for management-worker relations. Anything which heals or prevents sickness provides a common interest for management and workers alike. A subject on which both agree completely (and not all welfare arrangements come in this category) can be a starting point for wider agreement and understanding.

Most executives would agree that these two points are important considerations, but some may still fail to see the advantages, from a firm's point

of view, which the works physiotherapist has over her hospital counterpart.

A physiotherapist on the spot ensures that workers receive regular and frequent treatment (which is not always possible in hospitals, where the staff may have too little time, and there may be too many patients for all cases to be followed up.) When attending hospital, workers, especially when losing wages, are often tempted to discontinue treatment, and their recovery is retarded.

Moreover, production is not hindered so much when a works physiotherapist can arrange her treatment times to fit in with the works schedule. Also, unless there is a hospital next door to the works, a great deal of time is lost when workers attend hospital.

Apart from speeding convalescence, physiotherapy treatment enables convalescent workers to return to work much sooner—if not to their own jobs,

at least to light work which may or may not have been specially devised for them. A convalescent worker's own doctor, too, will be less loth to sign him off if he knows there is a physiotherapy department in the works. One important reason for speeding a worker's return to his job is that the longer he is away, the more he may lose of his special aptitude for a particular job.

Before discussing one of the most valuable aspects of the factory physiotherapist's work—that of preventing illness—it would be as well to examine briefly what physiotherapy is and what it does. The name, literally translated, means "healing by physical means." Physiotherapists amplify this by describing it as something which "gives nature a helping hand"—in other words, it is a means of speeding the natural curative mechanism of the body.

In industry, however, it can go further. Hospital physiotherapy is largely curative; in a factory it can be preventive. A works physiotherapist can acquire a thorough knowledge of the processes and machines in a particular industry. By knowing the hazards which could foreshadow accidents, and procedures which might be



*These two workers are receiving diathermy treatment. Treating some conditions by physiotherapeutic methods enables workers to return to their jobs in a fraction of the time taken when no treatment is given*

responsible for complaints, she can suggest measures to prevent them before they occur. An example is fibrositis among typists, which is caused by bad posture and is often the result of bad seating arrangements.

Preventive methods may even be carried a stage further by having rest breaks for planned group exercises.

The works physiotherapist is generally not restricted to her department. Her responsibility extends to the workshop and office. Some firms have light duty and rehabilitation departments for convalescent workers, and the physiotherapist is largely responsible for running them. In rehabilitation departments there are machines which

## *But it went bang . . .*

. . . and there was Mary, with a smutty overall, a pale face and a very nasty finger! "A week with a gap at the bench", thought the supervisor. But up came Nurse and dressed the finger at top speed — so easy with Prestoband — and now young Mary's happily working away again; finger comfortable, safe from dirt, and healing fast. There will be no painful tugging when the dressing comes off and no sticky smear left behind. For bulk users the Prestoband 'Hospital' Pack saves about 40% on costs. 12-yard rolls, in three widths:  $\frac{1}{2}$ ", 1" and 2". From your usual supplier or from the Manufacturers, VERNON & CO. LTD., PRESTON, LANCs. Telephone: Preston Priory 83293. Samples sent on request.

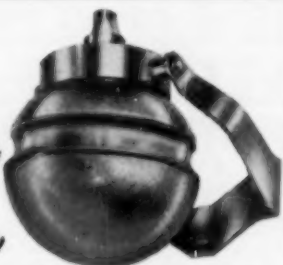
## **PRESTOBAND** THE ANTISEPTIC SELF-ADHESIVE BANDAGE

*\* sticks to itself, but NOT to the skin!*



★ Water resistant, dirt-excluding, mildly antiseptic, pinless, knotless, neat and tidy and no messing about. That's Prestoband!

*the  
Strength  
of the  
"SAVON"*



LIQUID SOAP DISPENSER

The strength of the SAVON Liquid Soap Dispenser—the latest Homacol design—lies in more than its tough stippled glass, its bright stainless steel fittings, and its sturdy construction. Its real strength—from your point of view—lies in its time-saving economy and its year in year out service in the interests of cleanliness and hygiene.

**HOMACOL**

LIQUID SOAP SYSTEMS

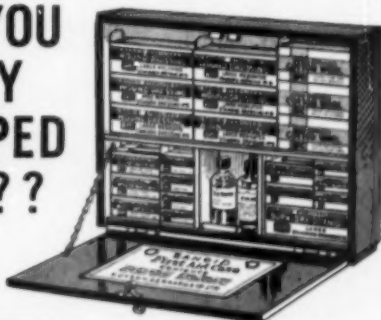
THE HORTON MANUFACTURING CO. LTD.

RICKMANSWORTH, HERTS.

Tel.: Rickmansworth 3191.

Grams: "LIQUISOPA", Rickmansworth

**ARE YOU  
FULLY  
EQUIPPED  
?????**



# **INDUSTRIAL FIRST AID**

The Factories Act 1937 stipulates that First Aid arrangements are required in all concerns to which the Act applies. Statutory requirements vary according to the number of employees and nature of the work carried out. As Pioneers of Industrial First Aid, established in 1878, we shall be pleased to advise and supply you with the appropriate equipment.

A PRODUCT OF  
**Cuxson, Gerrard  
& Co. Ltd.**  
OLDBURY BIRMINGHAM

The First Aid Outfit illustrated is in accordance with S.R. & O. 1938, No. 486 (Standard outfit B) for concerns in which mechanical power is used, and in which the number of persons employed exceeds ten but does not exceed fifty. Price: A182W-38/6 each, complete; plus carriage.



# **Southalls**

## **INCINERATORS**

**solve a burning problem**

For quick, individual and hygienic disposal of santowels; a boon to the women members of your staff and a relief to your cleaners and your Works Maintenance Account.

Simple to install, fully automatic, and backed by a country wide installation and maintenance service.

**GUARANTEED!** The incinerator illustrated is a gas model capable of dealing with the disposal needs of 100 staff in any cloakroom. Either gas or electric models are available.

Obtainable only from:

**SOUTHALLS (BIRMINGHAM) LTD.**

For full information write to:-

Automatic Dept. B7, Charford Mills,  
Birmingham 8.



have been adapted to exercise weak muscles. They are used to make small parts, their output being regulated according to the worker's capacities.

A firm setting up a physiotherapy department needs accommodation sufficiently large to take the necessary equipment and have room to spare for exercises. The Chartered Society of Physiotherapy is ready to help firms appointing physiotherapists. This is the only body recognized by the Ministry of Health, for controlling, registering and examining physiotherapists.

Companies unable to afford a full-time physiotherapist can often arrange for one in private practice to attend for a few sessions a week. Alternatively, two or more firms can combine to provide a central or mobile service. It is advisable to appoint, or at least consult, a qualified physiotherapist before buying equipment.

It is important to remember that a qualified physiotherapist will only give treatment to patients recommended by a doctor—either the works medical officer or the worker's own general practitioner. The physiotherapist, therefore, must be regarded as a member of the medical team.

**Case History.** The physiotherapy de-

partment at Briggs' Motor Bodies Ltd., Dagenham, is well-equipped and has the facilities which are available at a hospital. The company have had the department for about eight years, and it is now housed in a new medical centre. Patients are usually referred to it by the centre's two doctors or by their own G.P.s.

Many of the cases are industrial accidents which have occurred in the works. But often patients who work in the factory who have injured themselves at home are referred by hospitals and private doctors. A number of rheumatoid arthritis sufferers are also treated.

### Treatment

Although the majority of the injuries are lacerations, about 20 per cent of the cases are of the strains and sprains variety. Some of the work of the factory involves handling sharp metal panels for motor vehicles.

An example of how quickly the works physiotherapist can put men back on the job is provided by noting the treatment of tenosynovitis, which is a swelling of the tendons in the hand due to excessive use of those muscles on a repetitive operation.

The treatment consists of putting the

hand in a splint and giving short-wave diathermy treatment for a week or 10 days. (Diathermy is a means of supplying healing heat internally to injured parts of the body.) The following week the patient's hand is bandaged with *Elastoplast* and he is able to return to work. As a rule, therefore, the worker only loses a week's work, whereas untreated patients might be off work for as much as a month.

A function of the department is to correct postural deformities, such as flat feet which occasionally occurs among apprentices. Treatment at this age prevents serious trouble in later life.

The company employ about 14,000 workers. An average of up to about 40 a day are treated by the physiotherapy department. Each patient gets an average of four to five treatments. The average treatment time is half an hour.

Workers on the whole are co-operative, because they know that to get well quickly means a minimum loss of earnings. The physiotherapist achieves good results too because, unlike a hospital worker, she is able to get to know her patients and their environments, and thus their reaction to treatment is good.

## ABIX STEEL PARTITIONING for OFFICE or FACTORY

- ABIX partitions are manufactured in standard units for quick installation.
- Easily assembled, light strong and fire resisting.
- Let us discuss your partitioning problems.

Write for illustrated catalogue to:

# ABIX

(METAL INDUSTRIES) LTD., Factory Equipment Specialists

Taybridge House, Taybridge Road, Battersea, London, S.W.11.

Telephone: BAttersea 8666/7

Grams: ABIX, BATT, LONDON.

**BUSINESS**

KEEP A CLEAN BILL of HEALTH with

# Kwick-dry

## PAPER TOWELS

DISPENSED FROM AUTOMATIC CONTROLLED DELIVERY CABINET

BEWARE  
GERM  
SPREADING  
COMMUNAL  
TOWEL



Completely encased until used and thus free from exposure and contamination.

These **BETTER** quality towels **REALLY DRY** and do not disintegrate. They are **CHEAPEST IN THE LONG RUN** because released **ONE AT A PULL** from the cabinet, there is **NO WASTE**.

"KWICK-DRY" TOWELS are also supplied flat interfolded in packets for which dispensing cabinets are available

"THE TOWEL THAT REALLY DRIES—AS THE NAME IMPLIES"

Ask for details of our  
**TRIAL OFFER**



*Cuts your Towel Costs 50%*

Full details on application to Towel Department:

**FREEDER BROTHERS PAPER MILLS**  
BRIMSDOWN · ENFIELD · MIDDLESEX

Tel.: HOwARD 1847 (5 lines).

Grams: SYlkacrape, Enfield

## Peter's SANITARY TOWEL Vending Machines

provide these advantages



- A mechanism that can be adjusted to operate on any number of coins.
- A choice of brands—soluble or non-soluble.
- An assurance of unlimited supplies.

Particulars from:

**Automatic Machines**

Limited

1 LADBROKE ROAD  
LONDON, W.11

Telephone: PArk 7508

**PETER'S**



—a lot of hot air?

"just pleasantly warm" corrected the Crypto man gently.

"... but does it dry properly?" asked T.M.W.A.P.

"Like wind and sun on the Monday wash" beamed the Crypto man.

"—and cleanly?"

"... nothing more hygienic," said the Crypto man.

"How about Cost?" queried T.M.W.A.P.

"Cheapest of them all" purred the Crypto man (producing the evidence).

"Why's that?"

"Low running costs, no replacements, no laundry bills, no wet paper, no time wasted by workers, no..."

"Hold it!" cried T.M.W.A.P. "I'm convinced... now can I see one of your electric Hand and Face Dryers in action?"

"No sooner said..." smiled the Crypto man reaching for the telephone. The rest of the story is told in

"Into Thin Air", a folder which is yours for the asking.



**Crypto LIMITED**

North Circular Road, London N.W.10  
Telephone: ELGar 5611

Branches in Belfast, Birmingham, Bristol, Douglas (I.O.M.), Dundee, Cardiff, Leeds, Leicester, Manchester, Newcastle and Rangoon.

\*The Man With A Problem.

Times & D.D.





- He can show you how to save money now on floor maintenance.
- He's one of a team of trained experts — the Johnson J-Men.
- You have a local J-Man. If you want to cut your costs on floor maintenance send for him today.
- Telephone West Drayton 2244 or clip and mail this coupon now !

**JOHNSON'S WAX** **J**<sup>man</sup><sub>service</sub>

To:—THE J-MAN SERVICE,  
JOHNSON'S WAX PRODUCTS,  
WEST DRAYTON, MIDDX.

Please send a man who can cut my costs



NAME .....

COMPANY .....

TELEPHONE No. ....

B1

## Policy Column

### Modernize and Economize

A GREAT revival of interest in better equipment, labour-saving devices, and superior wall and floor surfaces indicates a general trend among firms to improve their canteens.

New thermostatically controlled fat-economizing fish fryers are being installed extensively, modern tea and coffee machines are replacing obsolete models. Such equipment as blenders, dough-dividers, and gravity feed slicers, is earning its keep in an increasing number of kitchens.

The decision to purchase new equipment may be motivated by a desire to modernize a kitchen completely, to lighten the load on busy kitchen workers, or even as a desperate expedient, to counteract a labour shortage.

But what is the financial justification of up-to-date equipment? Here are three examples which should at least set executives thinking.

1—A dish-washing machine may cost £500 and have an effective life of 20 years. Therefore its "wages" may be said to be £25 yearly plus, perhaps, £5 yearly for servicing. This machine teamed with two workers will do the work that three employees would do by hand—and do it in less time. Suppose, then, that a machine and two workers earning 2s. an hour can do in three hours a job which would take three such workers four hours to complete. This means a saving of 12s. a day, or £3 per five-day week. Clearly, such installation would pay for itself in three or four years.

2—With a good modern fryer, less fat is absorbed. The odd ruined portion or burned pan of fat is eliminated, and as much as ½d. an item can be saved. If 100 fried items—chips, doughnuts, fish—are served each day, the modern pan will save £1 weekly over an older model. Not much? But if the fryer costs £200 it will pay for itself in five years.

3—A good slicer, too, will yield more portions as well as saving time. One caterer estimates that his gravity feed-slicer paid for itself in six months.

But it should not be forgotten that a machine which is not fully employed is no economy. Elaborate equipment used in ignorance of its capabilities cannot properly fulfil its duties. And modern surfaces treated and cared for by obsolete methods and materials do not attain their full usefulness.

## Planning an Executives' Dining Room

By WINIFRED McCULLOUGH

*Senior Canteens Adviser, Industrial Welfare Society*

Despite conflicting views about their value, the provision of an exclusive dining room for senior executives is becoming a more common feature in British industry. This article reviews the arguments for and against them, and shows how much they really cost to establish and operate.

DURING the last few years an increasing number of firms have provided a separate dining room for their senior executives, and many more are considering the idea. Besides the financial aspect, however, there are a number of points both for and against which should be explored before a company embark on such a project.

Those who favour an executives' dining room claim that it saves the time of highly-paid personnel by giving them, on the premises, a meal as attractive as they could obtain in a high-class commercial restaurant. Moreover, a dining room of this nature is a good place in which to entertain guests, being cheaper than taking them to an hotel, and having a more "home-like" atmosphere.

It also provides a convenient place for informal discussions and the exchange of ideas at a high level, and is likely to ensure that a number of key personnel are on the premises at all times in case of emergencies. If the meals are subsidized or (as is sometimes the case) free, it provides, in effect, a valuable tax-free source of income.

Opponents of the executives' dining room attack it on the grounds that it emphasizes undesirable social distinctions. Another view is that it keeps executives within the confines of their own organization and prevents them from mixing with men from other firms. The practice is also attacked on the grounds that it is bad for health; that a change of scene half-way through the day acts as a very useful stimulant.

This question has been explored in the U.S.A. by the National Conference Board, who sent out questionnaires to 138 companies asking their views on executives' dining rooms. Here are some of the points, for and against, made in their replies:

#### For

1—The executives' dining room keeps top personnel readily available during lunch periods.

2—It provides space for business or conference meals and luncheons.

3—It gives executives a chance to discuss business plans with their associates at lunchtime.

4—It gives key personnel a chance to meet their colleagues socially.

5—When the place of work is in an isolated position it saves travelling time for key personnel.

#### Against

1—The executives' dining room is undemocratic and discriminatory.

2—Executives should mingle with all groups of employees at lunchtime.

3—Executives should show employees that they can carry their own trays like everyone else, and neither expect nor get any special favours.

4—Executives should observe at first hand the effectiveness of the ordinary food service.

A review of executives' dining rooms provided by a number of firms shows that the older type is usually dignified in tone with dark walls, sombre carpets, heavy curtains, and a white tablecloth on one long "family" table. Modern versions, however, tend to run to plain carpets in rich colours, pale walls,

brightly-curtained windows, and tables for four laid with place mats instead of covering cloths.

The service is usually by waitresses, although waiters are not uncommon. Coffee is often made in the room with cona-style equipment, and a hot-plate-cum-sideboard simplifies service.

There is generally a four-course menu, offering two or three choices of each item, and the meal is equal in all respects (except wideness of choice) to that served at a first-class hotel or club. Two sample menus are given below:

#### Table d'Hote Luncheon, 5s.

Smoked salmon (2s. 6d. extra)

Tomato juice

Hors d'oeuvres

Windsor soup

\* \* \*

Roast saddle of mutton with red-currant jelly

Minute steak, grilled, with mushrooms (1s. extra)

Grilled Dover sole, parsley butter

Cold York ham and mixed salad

\* \* \*

Steamed apple pudding

Lemon meringue pie

Fruit salad

Ice cream

Custard

\* \* \*

Choice of cheeses

\* \* \*

Coffee

\* \* \*

#### A La Carte Luncheon

Potted shrimp . . . . . 2s. 6d.

Tomato juice . . . . . 1s.

Minestrone soup . . . . . 1s.

\* \* \*

Grilled turbot . . . . . 3s. 6d.

Roast leg of pork, stuffing and apple sauce . . . . . 2s.

Pork sausages and

fried onions . . . . . 1s. 9d.

Grilled chump chop . . . . . 3s.

Potatoes—roast, boiled,

creamed, or chipped . . . . . 4d.

Cabbage . . . . . 4d.

Peas, fresh . . . . . 10d.

\* \* \*

Deep apple pie . . . . . 1s.

Caramel custard . . . . . 9d.

Ice cream . . . . . 9d.

Cheeses, various . . . . . 9d. to 1s. 6d.

Coffee . . . . . 9d.

In this case, the table d'hote luncheon is clearly the more heavily subsidized. The à la carte meal is intended to cover the cost of food and service, but fails to do so.

Behind the scenes, the executives' dining room more often than not has its own small kitchen, presided over by



One advantage of providing an executives' dining room is that some, at least, of the company's key personnel are always available during the lunch period

a chef and staffed by a head waiter, waitress, and part-time assistants.

The expense of providing an executives' dining room can be considerable. A recent installation cost, in equipment, furniture, and decorations, approximately £3,000. It seats 20 people and is not particularly luxurious. Another firm, who went in for a stainless steel kitchen and dining room fittings bought lock, stock and barrel at the auction of a connoisseur's furnishings, spent £5,000 on a dining room for 20 people.

Realistic costs for equipment and furniture would be something like those given below:

#### Kitchen

	approx. £
Gas or electric oven, solid top range . . . . .	200
Fish Fryer . . . . .	75
Infra-red grill . . . . .	25
Bain marie . . . . .	60
Dish-washing machine (stainless steel) . . . . .	230
Stainless steel double-sink unit . . . . .	70
Stainless steel pot sink . . . . .	40
Small mixer . . . . .	45
Chafing dish, toaster, etc. . . . .	20
Salamander . . . . .	65
17 c.f. refrigerator . . . . .	150
Potato peeler . . . . .	30

#### Servery

Hot trolley . . . . .	85
Coffee machines—Cona or Vesuviana . . . . .	30

#### Dining Room

Sideboard . . . . .	50
Tables . . . . .	70
Chairs . . . . .	140
Carpet . . . . .	180
Curtains . . . . .	20
Cocktail cabinet . . . . .	50

Where it is considered more convenient to serve an executives' dining room from a central kitchen, attached to the main canteen, fairly elaborate servery arrangements may be required.

Running costs must necessarily be high. A catering organization of the highest class must be built up, although it will in fact operate for only an hour or two out of 24. For 25 luncheons, a full-time chef and an assistant cook would be required, together with one full-time waiter/waitress to keep the dining room clean and to care for the tableware. For an hour or more before lunch, they would have to be reinforced by a washer-up and an extra waitress, who may be required to work for about three hours.

This means a wage bill of about £30 weekly, and food costs, taking the 5s. table d'hote as standard, would probably be in the region of another £20 weekly. The à la carte menu does rather better. Labour costs would be about the same, but the higher prices charged produce a higher income (perhaps £50 weekly), while the actual food costs would not be far different from the other example.

There are, of course, establishments in which a woman cook, with one assistant cook-cum-dish-washer and one full-time waitress with part-time assistance can serve a simpler menu in a less elaborate manner. Even the part-time waitress can be dispensed with when customers serve themselves with coffee, soup, cold dishes, and sweets set out on a sideboard and hot-plate.

For those who are considering establishing an executives' dining room, there are two final points to bear in mind. Firstly, the elaborate set-up is not just a matter of high installation costs; the upkeep will be high, too. Secondly, the subsidy, heavy though it may appear, may be partially offset by a reduction in entertainment costs.

## STYLE plus STRENGTH

—in E.S.A. Light Alloy Furniture

This elegant, clean-lined E.S.A. canteen and café furniture is of immensely strong alloy construction. It is light and easy to handle. The Formica table-tops are proof against cigarette burns and instantly cleaned with a damp cloth. The chairs have shaped plywood seats and backs, or can be upholstered.

SPECIALLY DESIGNED FOR  
CAFÉS, CANTEENS, CLUBS,  
HOTELS, HOSPITALS, etc.

Write for brochure giving details of these  
and other items in the E.S.A. range of  
furniture, including wooden furniture.



THE EDUCATIONAL SUPPLY ASSOCIATION LIMITED

Esavian Works, Stevenage, Herts. Tel: Stevenage 500

Esavian Works, Carlin, Lanarks. Tel: Holytown 391

# MORE

**for your money**

more time.  
more space. more speed.  
more files with TIPDEX Systems.  
more efficiency.

#### AND SAVES YOU HALF ITS COST PER DRAWER.

Neat compact Tipdex cabinets fit into spaces where ordinary filing cabinets just won't go—carry 50% more files per drawer with the Tipdex systems than with the normal suspension files—yet give full fast visibility even with all drawers open at once. Tipdex cabinets can be used in rows or banks anywhere, even in corridors, for fully opened they take only 19 inches of vital space as against over 42 inches with ordinary cabinets. Tipdex can't topple—there are no working parts to wear out—fully locking and dustproof—an entirely new angle on fast modern filing.

Ask your dealer for details or write direct to

**TIPDEX**  
LIMITED

1 Castle Court, Birchlin Lane, London, E.C.3.

DECEMBER, 1955



TIPDEX JUNIOR  
(½ Drawer unit) For Receptionists.



TIPDEX DESK  
(1 Drawer unit)  
For the Executive and his Secretary



# Fanfold

# Tabulating

## A 5-STAR PRODUCT WITH 5-STAR POINTS



Secure maximum production from  
Tabulators and Computers.

Ensure maximum carbon economy  
when used in conjunction with Carbaline  
Feed

Supplied in sets of continuous style of make-up,  
thus ensuring exactly the right  
form for the specific application

Facilitate subsequent writing operations,  
but can be quickly separated into  
unit sets for distribution with the  
aid of our auxiliary equipment

Can also be supplied on the newly  
developed N.C.R. paper

Tabforms—another time-saving product of the Fanfold Organization—have been specially developed to secure maximum production from Tabulators and Computers. In continuous length, they can be fed through at the maximum speed the machine will operate, eliminating all stops to collate forms, stuff carbons, adjust for printing position, etc. There is a Tabform for every tabulating purpose, and they can be supplied in various make-ups to give exactly the right form for the job, e.g., in continuous length for use with Carbaline Feed, eliminating the need for one-time carbon, thus ensuring maximum carbon economy; or with one-time carbon interleaved. Alternatively, a combination of one-time carbon and spot carbonization provides for the elimination of information between copies, or if desired, a pattern-carbonised insertion can be introduced to avoid carbon on the reverse of individual forms. For some applications, a unit set is preferable, and these are supplied with one-time carbon, with special flexible stub for use with machine companies feed devices. Five of the principle advantages of Fanfold Tabforms are listed below.



TABULATING MACHINE FITTED WITH CARBALINE FEED

*Fanfold for Forms*

OUR TABULATING DIVISION IS AT YOUR SERVICE WITHOUT OBLIGATION

To FANFOLD LTD., North Circular Road, London, N.W.2.  
Please send me your Business Practice Reports No. 4 and E5 on  
the advantages secured by the use of Fanfold Continuous Tab-  
forms using the Carbaline Feed.

NAME \_\_\_\_\_

STATUS \_\_\_\_\_

COMPANY'S NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_



GLASGOW

LEEDS

BIRMINGHAM

MANCHESTER

CARDIFF

BELFAST



● Office . . 141

● Industrial . . 149

● Welfare . . 154

● Canteen . . 154

## FOR YOUR OFFICE

### Copies Without Carbons

THE first release in Britain of the new *No Carbon Required* paper—first described in the April, 1955, issue of *BUSINESS*—was announced recently. Already there are indications that many business form manufacturers are planning to incorporate the new formula into their products.

*No Carbon Required* paper is the result of more than ten years' research in the U.S.A. Although similar to ordinary typing paper in appearance, it is coated with a special emulsion which entirely eliminates the need for interleaved carbons. The paper will produce about six clear copies with a ballpoint pen, eight copies on a standard typewriter and 12 on an electric typewriter. All the copy-sheets must be coated with the emulsion if the impression is to carry through.

On the average, it is reckoned that business forms processed with the new formula will cost slightly more than the combined cost of business forms printed on ordinary paper and the carbon sheets needed to go with them. The manufacturers point out, however, that this is more than offset by the saving of time and the increase in convenience.

Enquiry Ref. No. O.12/1

### Low-priced Letter Opener

ONE of the simplest and cheapest letter-openers yet produced is the *Sesam 2*. All the operator has to do is slide the envelope into a slot near the top of the unit and press down on the base with his palm. This causes a fine



Simple and cheap

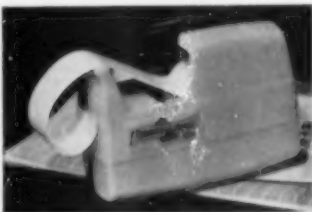
sliver of paper to be cut from the top of the envelope, leaving the contents undamaged.

The opener is quite small—10in. long by 7in. wide—and has a stove-enamel grey finish. The steel blades are sharpened automatically.

Enquiry Ref. No. O.12/2

### New Dispensers

TWO new tape dispensers were recently placed on the market by a well-known manufacturer. The first, known as the *Transotaper Major*, is designed to accommodate a wide



For general use

variety of self-adhesive tapes, ranging from the standard cellulose type to the heaviest and toughest p.v.c. Only one spindle is needed, although additional spindles may be purchased if required. The blade is straight-cutting with a safe, automatic spring-action guard, and only the slightest pressure is needed to obtain a precise cut.

The second dispenser, the *Topform* (shown above) is a smaller machine intended primarily for general office work, such as fastening of file numbers, etc.

Enquiry Ref. No. O.12/3

### Quicker Copy-typing

ILLUSTRATED below is a new typist's copy-holder which, according to the manufacturer, ensures a correct sitting position, prevents eyestrain, and helps the typist to develop



Fully adjustable

a good speed.

The copy-holder consists of a solid base, on which the typewriter rests, and—fitted to the top of the stand—a rubber platen. The material to be copied is inserted round this platen, as on a typewriter, and the unit can then be adjusted up or down, backwards or forwards, to suit the typist's eyesight. An adjustable automatic device turns the copy up 2, 4 or 6 lines every 30 seconds.

A lamp, also adjustable, is fitted slightly above and in front of the platen.

Enquiry Ref. No. O.12/4

### Draughtsman's Pen

ONE advantage of the *Rapidograph* pen which should interest draughtsmen and artists is that it draws a line of constant width, as well as being



Constant width lines

★ Equipment included in this survey is selected for its news value alone. The names and addresses of the manufacturers or distributors of items mentioned can be obtained by writing to the Editor, *BUSINESS*, Mercury House, 109-119 Waterloo Road, London, S.E.1, quoting the appropriate reference numbers. Manufacturers are invited to submit details of new and interesting products for consideration. An original photograph should accompany each item submitted.

## Business EQUIPMENT SURVEY

effective with any kind of ink. The pen can be filled direct from an ink bottle in the ordinary way, and is fitted with a cleaning device which automatically removes any obstructions.

The pen is made in three "line width" sizes—fine, medium and broad.

*Enquiry Ref. No. O.12/5*

### Desk on Wheels

A USEFUL accessory for firms where typewriters and adding-listing machines have frequently to be switched from office to office is the



No more lifting

new plastic-topped desk shown below. This has two castor-wheels which enable the machines to be trolleyed safely and speedily from one office to another.

The desk is intended to supplement the operator's main desk, which can then be left clear for papers, trays, etc. Two side-flaps are provided for stationery. The centre table measures 19in. by 18in., and the overall area (with flaps raised) is 44in. by 19in. Finish is in polychromatic light green.

*Enquiry Ref. No. O.12/6*

### Calendar on a Dial

FOR executives who have not yet ordered their 1956 calendars, the *Clock Calendar* should be of interest. This is a perpetual day, date and month indicator arranged in the shape of a clock. Affixed to the centre of the dial are two rotating plastic hands, a short "hour" hand to indicate the month and a long "minute" hand to indicate the current day and date. A rotating disc bearing the days of the week must be adjusted on the first of each month to ensure that the correct day appears opposite the date.

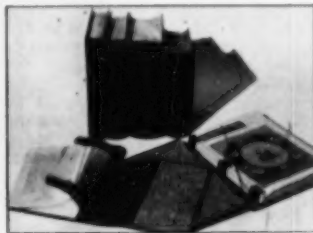
One of the advantages of the calendar is that it shows at a glance the portion of the month past and the

portion yet to come. For instance, if the minute hand is at the "quarter-past" position it conveys instantly that approximately a quarter of the current month has passed.

*Enquiry Ref. No. O.12/7*

### All-purpose Binders

BINDING of ledgers, catalogues and instruction sheets is greatly facilitated by using *Bookform* binders. These combine the strength of permanent binding with the adaptability of a loose-leaf system, and have the additional asset of not requiring holes to be punched in the sheets. The material is held in place by powerful



Strong and versatile

it all adds up  
to an

**Everest  
calculator**

for full details or demonstration:

**T. S.**

(OFFICE EQUIPMENT) LTD.

30 NEW BRIDGE STREET,  
LONDON, E.C. 4.

Telephone: CITY 1107

Sole Distributors for Everest Calculators  
and Typewriters.

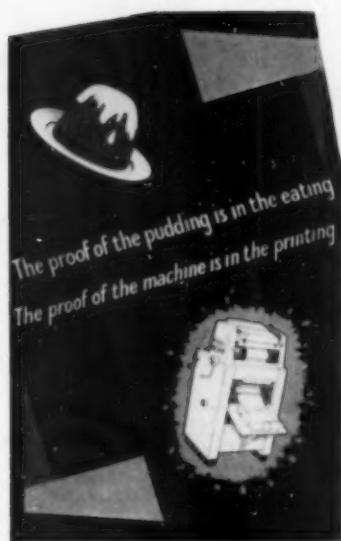
Sales and service throughout the country.



#### WITH THESE UNIQUE FEATURES:

- ★ Capacity 9 x 8 x 13 and 10 x 9 x 17 with or without Back Transfer and Split Register.
- ★ Key setting with proof dials.
- ★ Single hand operation.
- ★ Automatic dividend tabulator and division alignment.
- ★ Reverse switch for negative division.
- ★ Tens transmission throughout.

*It's  
hard  
to  
believe...*



that a machine so small and simply operated as the Rotaprint can produce such high quality printing, but here is the proof! This little booklet is full of first-class printing. Printing which demonstrates the quality and versatility of these very efficient machines. If quality printing matters to you, send for this new booklet today and you will quickly realise that the installation of a Rotaprint machine is a really sound investment.

**Rotaprint**  
LIMITED

Established 1927

Please send me a copy of your new booklet "The proof of the machine is in the printing"

Name \_\_\_\_\_

Department \_\_\_\_\_

H12

Pin this form to your letter heading and post to

**ROTAPRINT LIMITED, HONEYPOT LANE,  
LONDON, N.W.9**

## MACHINE LOADING— THE EASY WAY

A major problem solved by a really simple and efficient system.

Machine Loading sets a vital problem in every factory. Without a really competent system, production is delayed—delivery promises broken—goodwill lost.

Faults that are not only unbusinesslike, but unnecessary . . .

For here is a method that for sheer simplicity plus efficiency has already excited the interest of Factory Managers throughout the Country.

"Shannostrip" the new snap-vision system of quick reference, signals instantly ;

- (a) Which machines are working.
- (b) Work allocated to each machine.
- (c) Estimated time of operation.
- (d) Capacity of machine.
- (e) Work completed in estimated time.

And ensures that no machine either remains idle or carries too great a load.

Any deviation from the programme stands revealed at once. Faulty machinery—deficiencies in personnel—and all other failings that retard production are noted instantly.

In both Factory and Production department the exact work of every machine (and the work it is capable of doing) can be seen at a glance—which means programmes planned smoothly, confidently, efficiently.

And with all this, the operation is simple—so simple, in fact, that the mechanics of the system can be left in the hands of an intelligent junior.

Why take the risk of jobs finishing out of schedule with the subsequent confusion of an unbalanced programme? Why—when this really efficient method of machine-loading will solve your problems and save you time, labour and money.

For further details please write "Machine Loading" on your letter-heading and post to the address below.

**Shannon Systems**

VISIBLY BETTER RECORDS

**THE SHANNON LTD.,**

71 Shannon Corner, New Malden, Surrey

## Business EQUIPMENT SURVEY

spring clips which can be opened only with a pair of levers. These clips are attached to the cover of the *Bookform* by a rod, which slides through small steel loops attached to the clips and to the cover.

Five sizes of clip are available, the smallest capable of holding any number of sheets up to  $\frac{1}{4}$ in. in thickness and the largest holding up to 2in. Two clips are provided with binders up to foolscap size, and three with the extra-large sizes. Covers are available in a variety of sizes, shapes and colours.

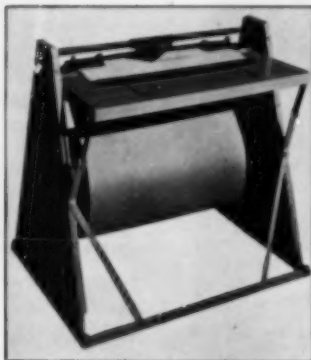
If binders are required for papers or magazines which have margins of less than  $\frac{1}{4}$ in., the springs of the *Bookform* binders will not clear the print, and the same manufacturer's *Wiretype* binders should then be used. These open absolutely flat, enabling illustrations, etc., printed right across the page to be seen in full.

*Enquiry Ref. No. O.12/8*

### Accurate Paper Cutting

**D**ESIGNED for high-speed cutting of corrugated and other packing papers, the *Corrugcut* has a graduated stop, inch and centimetre scale to enable repetition-cutting to be performed with complete accuracy.

The machine itself is sturdily constructed of reinforced sheet metal with



a stove-enamel finish. To reduce the floor-space required, it is designed in such a way that the paper roll can be accommodated beneath the cutting table.

*Enquiry Ref. No. O.12/9*

### Improved Headset

**T**HE British distributors of *Agaphone* and *Agavox* recorders have recently introduced a new and improved type of headset for use with their machines. The headset is made of moulded plas-



Sturdy paper cutter (left) and easy-on-the-ears headset (above)

tic material and is extremely light in weight—an important consideration when a girl is typing from recorded dictation day after day. Nothing goes into the ears, the light pressure of the earphones being absorbed by two soft rubber pads.

*Enquiry Ref. No. O.12/10*

### Longer Tape

**D**ESPITE a reduction in price, the latest version of the *Tackytaper* tape dispenser, the *Model 30*, features

Based on the Eliotype NON-METALLIC address card, the Elliott system of data reproducing or name writing will cut costs in every department.

Wages sheets, clock-cards, pay bags, mailing lists and a host of other applications—all can be served by the Elliott system of addressing—speedily and efficiently, with clarity of reproduction identical to that of your typewriter.

# Elliott

## ADDRESSING AND LISTING MACHINES

### ADDRESSING MACHINES

HAYWARD LIMITED

62 BRITTON STREET  
CLERKENWELL ROAD

LONDON, E.C.1 CLERKENWELL 5961-2

● PUNCHED CARD AUTOMATIC SELECTION

● DUPLICATE AND SINGLE PRINTERS

● AUTOMATIC SUCTION FEEDS

● DOUBLE COLUMN LISTERS

● WRAPPER ADDRESSERS

# Do you need a

# New Desk

Executive Desk  
£32-19-6



Executive Swivel Chair  
£16-16-0

# or any

Chair  
(without arms)  
£2-19-4



Secretary's Desk  
£12-18-0



Executive Chair  
£12-7-4

## other Office Furniture?

We have a wonderful variety in wood and metal. Call and see us if you can: or phone or write letting us know your requirements

### JOHN PERRING CONTRACTS DEPT.

Richmond Road, KINGSTON-on-THAMES.

Phones: KINGston 1718



WHAT'S THE  
**PLAN-O-MATIC**  
FIGURE?

Four hundred  
and fifty-four,  
NOW!

## REVOLUTIONARY

### REVOLVING DISCS REPLACE RECORDS

Plan-O-Matic short-circuits time-lagging records and abstracts; and injects a stimulating quick-off-the-mark efficiency throughout the organisation.

Installed by **well-known firms** for: Forward Purchasing, Stocks and Sales; Shop and Machine Loading; Financial Forecasting; Planning and Progress in all aspects; Bookings (Tours); etc.

UNIT principle of Plan-O-Matic caters for a score or thousands of items. It grows with the business. Write for Booklet B.9—and define your subjects.

**PLAN-O-MATIC Division, Dacron Limited, 31 Fitzroy Sq., W.1. EUSton 5741/2**  
Represented in principal cities in Great Britain ■ International distribution





## Business EQUIPMENT SURVEY



Simple refilling

several new modifications. The most notable of these is that the maximum length of tape which can be dispensed at a single press of the control-button is now 5in. (previous maximum 3½in.). Other improvements are (1) refilling has been simplified, and (2) construction of the machine has been reinforced.

Enquiry Ref. No. O.12/11

### Constant-flow Pen

ONE advantage claimed for the Anderson auto-flow ruling pen is that a single loading of the nib from the transparent reservoir handle will maintain a steady flow of ink 12 times greater than with the orthodox type. It also produces a constant density, which becomes especially evident when



High-capacity reservoir

coloured inks are used.

A wide selection of nibs is available for use with the pen, ranging from one for drawing fine hair lines to one 3/32in. in width. To ensure perfect production of very fine lines, the pen is fitted with a sliding centre blade for cleaning and lapping the two inner surfaces of the nib.

Enquiry Ref. No. O.12/12

### Numbering to Order

SPECIALLY designed for irregular repetitive numbering, the new ma-



Quick-change lever

chine pictured above has a special lever which, when pulled, automatically changes the number to the next in sequence; when only the handle is depressed, the same number as before is printed. The standard model is fitted with six-figure wheels, but up to eight wheels can be supplied on request, together with other modifications such as engraved letter wheels.

Enquiry Ref. No. O.12/13



## A Pat on the Back from the Chairman

"That was a good idea of yours, Jenkins—putting in those DIMAFONS. We don't seem to have any more complaints about letters being held up—and I see that the DIMAFONS cut administration costs."

What is the DIMAFON? It is a new-style dictating machine. Each double-sided magnetic disc records the equivalent of 16/20 normal-sized letters and puts 10-20% more time at your disposal. Your Secretary does 50-60% more work. The DIMAFON is extremely simple to operate and costs less than 12/- a year to run.

In AUSTRALIA, SWITZERLAND and WEST GERMANY the DIMAFON Dictating Machine outsells all other makes.

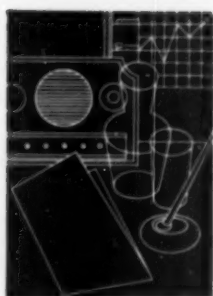
**PROVE IT FOR YOURSELF**  
Test a DIMAFON for 14 days, without obligation

Write or telephone:

**DIMAFON Ltd., Dept. B3, 27 Craven St.,  
Northumberland Av., London, W.C.2 Tel: TRA 6655**

*Dimafon*

## KEEPING UP WITH MODERN TRENDS



Smith's local shop or bookstall can quickly supply you with books on established and new methods in management, marketing, forecasting, production, industrial relations and recent mechanical and electronic aids for commerce and industry. Lists of titles on any subject can be quickly supplied by your local branch.

★ Your stationery and printed matter can also be supplied through our local branch.

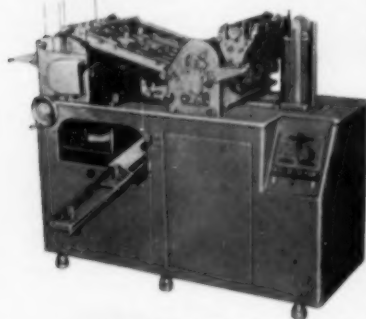
## W. H. SMITH & SON

FOR BOOKS ON COMMERCE & INDUSTRY

Head Office: STRAND HOUSE, LONDON, W.C.2

## At last-a solution to your sales promotion problems!

THE "ADRAS" MULTICOLOUR LETTERPRESS  
OFFICE PRINTING & ADDRESSING MACHINE



### PRODUCES PERSONAL LETTERS

Coloured letter-heading, date, text, underlines, handwritten postscript, signature, AND... from address plates... name, address, salutation, perfectly matched in, and...

### ALL IN ONE OPERATION!

At a speed of... OVER 3,500 PER HOUR!

At a cost of... LESS THAN 2d. EACH!!

Prepares envelopes, reply-paid cards, and all other enclosures.

"The only machine of its kind in the World!"

Available either through an installation in your office, or through the facilities of the ADRAS BUREAU



**Business Efficiency Machines Ltd.**

The "ADRAS" Addressing Machine People  
16 DOUGLAS ST. LONDON S.W.1 TATE GALLERY 3670

## Diagraph **PLIABLE** STENCILS

Install a Stencil Cutting Machine and assure quick and safe delivery of your goods. Waterproof Stencil Inks (Black and Coloured), Fountain Stencil Brushes, Fountain Marking Pencils supplied.

For  
CLEAR,  
LEGIBLE,  
WATERPROOF,  
ADDRESSING



THE DIAGRAPH STENCIL MACHINE CO. LTD.

25 Clarence House, Arthur Street, London, E.C.4

Telephone: Mansion House 4493 - Telegrams: "Firstly, London"

Contractors to H.M. Government

WHY choose a

## FAMOSA CALCULATOR

BECAUSE

- **QUALITY** — only steel and bronze used (NO light alloys)\*
- **RELIABILITY** — automatic safety devices prevent incorrect operation
- **PRICE** — lower than any comparative machines

For a free demonstration and a discussion of your particular applications, contact

### FAMOSA

Adding and Calculating Machine Co. Ltd.  
5a Lacey Road, Putney, S.W.15. PUTney 7159

\* THE ONLY CALCULATING MACHINE  
FULLY GUARANTEED FOR TWO YEARS

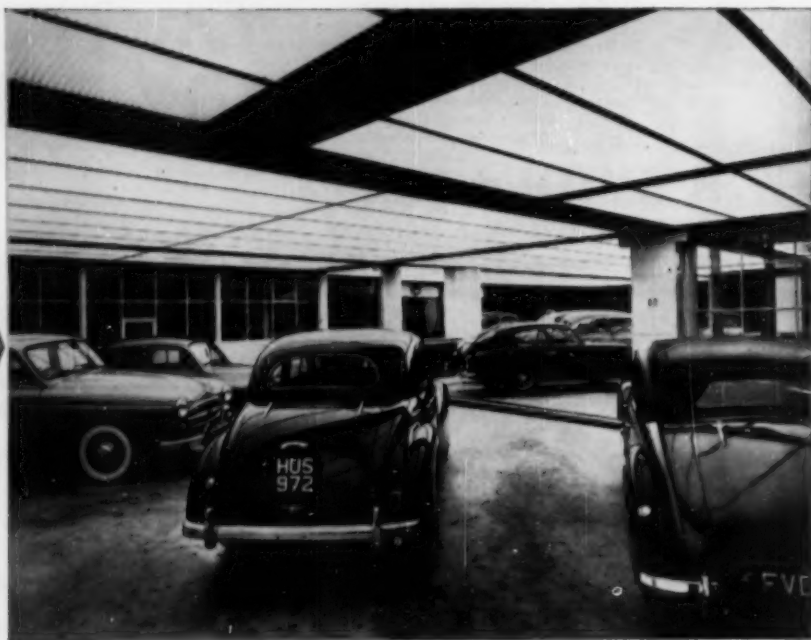


*See-*

## HOW THE SCENE CHANGES

*Garage with conventional lighting. Note the confusion of beams, pipes, trunking, wiring and light fittings.*

*The same garage after modernising with a LUMENATED CEILING.*



*Write for your copy of "LUMENATED CEILINGS", an illustrated brochure giving full details of this new lighting technique.*

When modernising old premises or building new ones, you can make lighting an integral part of design by installing a LUMENATED CEILING, a new lighting technique combining light source and ceiling in one. The whole interior of shops, offices and show-rooms is diffused with a pleasant, efficient light of uniform intensity without shadow, glare or 'high spots'. The LUMENATED CEILING overcomes many design problems

by effectively screening overhead pipe work, ventilation trunking and other unsightly projections.

### SAVING IN MAINTENANCE COSTS

The surface of the LUMENATED CEILING is a durable, finely corrugated plastic material, specially treated to repel dust. It is non-inflammable, can be easily cleaned and kept in perfect condition with the minimum of attention.

## LUMENATED CEILINGS LIMITED

LONDON OFFICE: ALLIANCE HOUSE, CAXTON ST., S.W.1. ABBEY 7113  
HEAD OFFICE: THERMOTANK LTD., HELEN STREET, GLASGOW  
SOUTH AFRICAN CO.: THERMOTANK S.A. (Pty.) LTD., SIMMONDS  
& GODFREY ST., JOHANNESBURG



TGA 17  
BUSINESS

## INDUSTRIAL EQUIPMENT

### MACHINE TOOLS

#### Centreless Grinder

THE new Cincinnati Filmatic No. O centreless grinder is a small general-purpose machine, suitable for grinding a wide range of metallic or non-metallic parts up to  $\frac{1}{2}$  in. in diameter. The makers recommend it for the production of small drills, pins, punches, shafts, clock parts, instrument parts, etc.

It embodies the same features as the manufacturer's larger machines, including spindle bearings with automatic lubrication (with electrical cut-out protection), and swivel-plate mounting of the regulating wheel unit for simplified correction of slight



For small diameter work

tapers. Other features are the hydraulic truing of the grinding wheel, and a tachometer indicator for regulating infinitely variable wheel spindle speeds.

Enquiry Ref. No. F.12/1

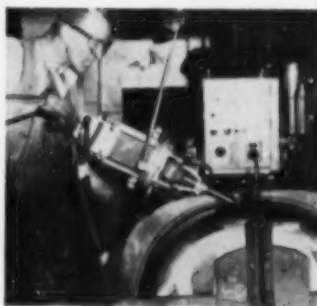
### PORTABLE POWER TOOLS

#### New Welding Gun

MANOEUVRABILITY of the P413 air-hydraulically operated welding gun makes it suited to automatic production methods requiring high output per man hour, low capital investment and easy maintenance.

The P 413 can be used on assemblies which are too bulky or heavy to move. It may also be used for sheet-metal work such as automobile bodies, metal furniture, refrigerators, sub-assemblies, etc.

A transformer is built into the gun, the primary and secondary windings, output leads and electrodes being water-cooled. The incorporation of an



Low cost—high output

air hydraulic drive considerably reduces operator fatigue.

A trigger, built into the pistol grip, controls the compressed air input; pressure is then applied hydraulically to the gun. The timer unit regulates squeeze time, weld time and forge time, and can be set for single-shot or automatic repetition welding. In the automatic repetition position the firing rate is pre-set. The timer can be locked after setting.

Main advantages are: (1) The built-in transformer is connected to the timer unit by an ordinary flexible lead. This eliminates heavy secondary cables and gives the operator complete freedom of movement; (2) The design of the secondary circuit ensures a high welding intensity for a gun of this type; (3) Being slim, the gun can be placed into narrow spaces and hard-to-get-at places.

Enquiry Ref. No. F.12/2

#### Two-speed Drill

OF Swiss manufacture, the Perles OHB 235 two-speed drill is said to be the only drill in its capacity which has the additional feature of two



For all standard voltages

speeds. The drilling capacities are  $\frac{1}{8}$  in. in steel, and  $\frac{1}{4}$  in. in hardwood. Speeds are: (1) running light, 600 r.p.m. and 1,700 r.p.m., and (2) on load, 400 r.p.m. and 1,200 r.p.m. respectively.

The drill is fitted with a dynamically-balanced universal motor for all standard AC or DC voltages, which is mounted on ball-race bearings. Consumption is 220 watts and the power rating 100 watts. Overall length, with chuck, is 8 $\frac{1}{2}$  in. and the complete unit weighs 4 $\frac{1}{2}$  lb.

Sanding and grinding equipment and drill stands are available as extras.

Enquiry Ref. No. F.12/3

### PACKAGING

#### Packing 'Jackets'

IDEAL for packing gas-cookers, refrigerators, television sets or any other cabinet-style product, the *Protectomuff* can be fitted rather like a coat, by unskilled labour. It has a strong outer cover, a needleloom felt padding and a soft cloth inner lining, and is quilted throughout. Bottom corners are handsewn, and transparent



Can be used again and again

plastic address label holders are supplied.

The outer covers are available in three different materials: natural jute, waxed jute or cotton duck.

Enquiry Ref. No. F.12/4

### PROCESSING

#### Core Blower

MANUFACTURERS of the Steloy shell core blower claim that it solves the longstanding problem of producing hollow cores. Simply by coupling the rubber feed line to an existing air supply, the unit is made ready for use. In operation, a pneumatic foot pedal is depressed which causes air to be supplied through a calibrated gauge to the hopper blowing unit.

As is usual with the shell moulding process, a heated metal core box is required. After the moulding material has been blown in the box, where it is held under pressure for a predetermined time, a master valve trips the control pedal, which in turn releases

## Business EQUIPMENT SURVEY



Just connect to air supply

the pressure in the box and exhausts the surplus material by vacuum.

The machine is capable of producing hollow cores of a reasonable size at the rate of 60 an hour.

*Enquiry Ref. No. F.12/5*

### MATERIALS HANDLING

#### One Man Lifting

RECENTLY introduced, the *Model F. 600* hydraulic lift truck has a

base fitted with two fixed-type floor wheels at the front, and two swivel castor wheels at the rear. It can be pushed or towed with a hinged, retractable towing handle.

A foot-operated hydraulic pump lifts 600lb. up to 5ft. in half a minute. Lowering is effected by depressing a second pedal. The truck can be oper-

ated by one man, and is suitable for loading lorries, storing material, lifting press tools on to presses, etc.

*Enquiry Ref. No. F.12/6*

### GENERAL

#### Hole Cutter

FOR use in portable or bench-type electric or pneumatic power-drills of  $\frac{1}{2}$ in. capacity and upwards, the *H.S.* hole cutter has teeth which are removable for regrinding or replacement.

Rate of feed into the work is independent of the operator, since the maximum rate of penetration per revolution is controlled by the back supports. The taper-end non-slip mandrel, with pilot drill, is common to



Lifts five feet in half a minute



Independently controlled feed

# Harvey

## STEEL FILING CABINETS

### For Heavy Duty

Substantially constructed for heavy duty, with an inner framework of vertical steel channels welded together to give maximum strength and durability. This framework also ensures efficient support for the drawers, which glide smoothly and quietly to their fullest extent, despite heavy loading.



Stove enamelled Olive Green or Scarborough Grey (alternative colours to order), with chromium plated card holders and handles, and supplied in units of 1 to 5 drawers; quarto and foolscap sizes.

Please ask for  
Catalogue No. BU 800

AVAILABLE  
WITH  
SUSPENDED  
FILING  
CHASSIS  
IF DESIRED

G. A. HARVEY & CO. (LONDON) LTD, Woolwich Road, London, S.E.7. GREENWICH 3232 (22 lines)



## Making your desk important



On THIS desk, the lighter shown is the Ronson Senator. In figured woodgrain finish, or in real pigskin—63/-.

## A Ronson lighter as your business partner

Furnishing a desk requires thought. A man is apt to be judged by the accessories he chooses for it. One essential item—because it is always *right*—is a Ronson desk lighter. It looks impeccable and it is supremely efficient. A single filling supplies many lights for many weeks. Ask your Ronson dealer to show you the several designs and finishes—you'll certainly find one exactly fitted for your office.

## and as your business ambassador

Many Ronson dealers can supply desk lighters with an extra-large engraving plaque to take goodwill messages to business friends from you or your firm. To give a Ronson engraved like this is a fine way to pay compliments or respects. If you'd like to know the name of a dealer near you who can offer this service, drop a postcard to Ronson Products Ltd., Leatherhead, Surrey.

For your own protection look for the trade mark

# RONSON

world's greatest lighter



# SYNCHRONOME

IMPULSE TIME SYSTEM

will solve these inseparable problems for you

Any time-controlled installation supplied on purchase outright or rental terms.

## THE SYNCHRONOME CO. LTD.

ABBEY ELECTRIC CLOCK WORKS  
MOUNT PLEASANT, ALPERTON, MDX.

Tel. WEMbley 3643

### AGENTS IN THE BRITISH ISLES

**SCOTLAND:** Messrs. Ellis & McDougall, 12 Sawmillfield Street, Glasgow, C.A. Telephone Glasgow Douglas 6566.  
**NORTHERN IRELAND:** Messrs. F. C. Duncan & Co., 20 Church Street, Belfast. Telephone Belfast 29086.  
**IRE:** Messrs. Haslam, Roddy & Co., 11 Crow Street, Dublin. Telephone Dublin 73427.

## Business EQUIPMENT SURVEY

all body sizes, and the teeth and support-rakes ensure that the swarf is cleared during cutting.

The manufacturers will undertake regrinding at nominal charges.

*Enquiry Ref. No. F.12/7*

### Adjustable Table

**T**HE Cowell compound table unit is a drilling machine attachment which enables holes to be drilled in drill-jig plates and similar work with centres accurate to within 0.002in. The table consists of a work bed which can be traversed in two directions at right angles to each other, the move-

ments being controlled by leadscrews fitted with micrometer collars reading in increments of 0.001in.

Greater accuracy can be obtained by the use of stops on the slides in conjunction with end measuring rods or slip gauges. Clamping levers are provided to lock the table in any desired position. The unit can also be used for light, high-speed milling provided that the machine to which it is attached has a well-fitted spindle.

The micrometer collars are of large diameter, and are dull chromium-plated for easy reading. Oil sumps are provided at each end of the table for the collection of cutting lubricant. The travel of the table enables quite

large work to be handled, but extension handles can be fitted if the attachment is used on a machine larger than the normal bench drill.

*Enquiry Ref. No. F.12/8*

### Plastic Welding

**S**UITABLE for sealing Cellophane or for welding plastic sheeting, the *Acru Pyrobit* plastic sealing iron is very simple to use. Rolled with a slight pressure over the two sheets which are to be welded, it produces clean joins.

The iron takes approximately two minutes to heat up and consumes 45 watts; models are available for all voltages. It can be supplied with either a Bakelite or a wooden handle, while the wheel and copper bit are chromium plated. Three different wheels which suit most requirements are supplied with each iron.

*Enquiry Ref. No. F.12/9*

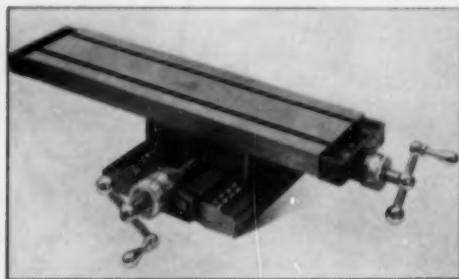
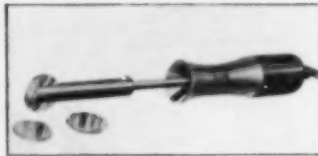


Table unit for accurate drilling (left), and plastic-sheeting welder (right)



## HOW ARE YOUR BUSINESS NERVES TO-DAY?



Your **Production Manager** wants machining data . . . progress reports . . . a sample from laboratory or stores. How long does it take the nerve system of your business to react? How quickly do his requirements reach his desk and how much does it cost to get them there? Lamson Carrier Tubes and Conveying Systems provide the vital line of communications through which your whole organisation can function at peak efficiency all the time.

Why not consult Lamson (Dept. D.12) now?

**LAMSON ENGINEERING Co. Ltd.**

Hythe Road, London, N.W.10

Telephone: Ladbroke 2424. Telegrams: Kelywil, Harles, London



For OFFICE or FACTORY



## INDUSTRIAL VACUUM CLEANERS

—an unrivalled range of machines and tools specially designed for industrial purposes of which but three are illustrated here.

All B.V.C. equipment can be supplied on convenient rental terms.

Write for full information.

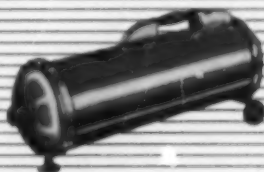
THE BRITISH VACUUM CLEANER & ENGINEERING CO. LTD  
Dept. 1/M, Goblin Works, Leatherhead, Surrey, England

Phone: Ashted 866

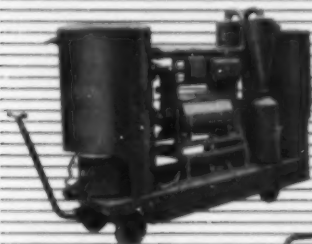
London Office: Terminal House, 52 Grosvenor Gardens, London, S.W.1.  
SLOane 9975/8

### MODEL TLI.

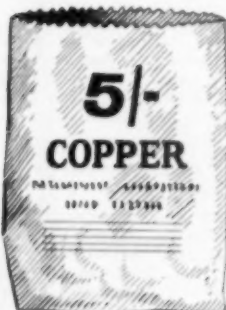
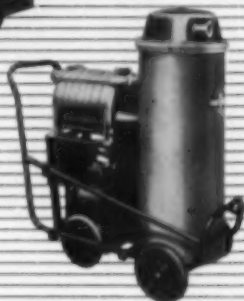
A strongly built machine recommended for Offices, Hotels, Institutions, laboratories, etc.



**MODEL T87.** Designed for flue cleaning Lancashire and other large boilers, furnaces, and gas works retorts. Handles heavy, smouldering or red hot dust.



**MODEL T23X.** An extremely compact but powerful general-purpose machine for factory use. Cyclone top to prevent filter clogging. A ball valve can be fitted if required for collecting liquids.



## Take care of the pence

or the "5-minute-men"  
will waste your £'s . . . . .

And take care of the minutes too.

It's the "5-minute men" who send costs rocketing—the men who are 5 minutes late.

Cost Accountants compute that with a payroll of 50 men, a loss of 5 minutes each day at 3s. 6d. per hour may mean £177 1s. 8d. a year.

Let the Magneta Time Recorder watch the minutes. It pays for itself in six months.

## MAGNETA TIME RECORDERS

TRADE MARK

"Keep an eye on costs"

THE MAGNETA TIME COMPANY LTD.  
GOBLIN WORKS · LEATHERHEAD · SURREY · Telephone: ASHTEAD 866

DECEMBER, 1955



## CANTEEN AND WELFARE EQUIPMENT

### Portable Heater

**M**AKERS of a new paraffin radiator claim that one filling of about two gallons of fuel will give 168 hours of warmth, at a cost of under 3d. per hour. Heat is transmitted through the radiator by specially blended low expansion oil sealed off from the actual fuel. Surface area is 24 sq. ft., giving out 3,000 B.Th.U.s per hour. Castors



Cheap Heat

allow easy movement from room to room.

Enquiry Ref. No. W.12/1

### Safety Bootee

**T**HE concealed steel toe-caps of *Nifties*, a new type of safety boot for women, will withstand falling weights of up to 40ft. lb. Rest of the boot is designed to make it indistinguishable from ordinary cold-weather footwear. Uppers are of soft cherry-red leather; inside is lined with real lambswool, and sole and heel are of *Aviaflex*.

Shape of the bootee gives a smart appearance as well as extra protection for ankle and instep.

Enquiry Ref. No. W.12/2

### Flexible Mop

**F**LOORS can be dusted and polished without furniture having to be moved, with the *Flexible Flo* mop. Mop shaft is of lightweight flexible steel covered in rubber, and will bend in any direction. This allows awkward pieces of floor to be reached without stooping. Duster head is of special yarn, said to leave no lint behind, and is detachable and washable.

From the same makers comes a self-wringing mop, useful for washing kitchen floors. A linen bag above the mop-head can be pushed down over

it with a twist of the wrist, and all water wrung out. A similar idea is embodied in the industrial *Suzy* self-squeezing sponge mop, a lightweight squeegee and scrubber combined.

Enquiry Ref. No. C.12/1

### Economical Peeling

**A** PEELING chamber with smooth *Asides*, designed to prevent waste, is a speciality of a potato-peeler which takes from 28 to 35lb. at a time. Even peeling is ensured by a deflector plate



No waste

which rolls the potatoes over at each revolution of the abrasive plate at the bottom of the chamber. Each batch is peeled within 90 seconds, with a loss of weight of from 15 to 20oz.

Enquiry Ref. No. C.12/2

**In less than 3 mins.**

**Any written message**

**Yards or miles..**

**Creed**

**Facsimile**  
COMMUNICATION SYSTEM



Just press a button and this simple system will send any written message yards or miles away over a telephone wire. The message will be received in less than three minutes, on paper, as a precise facsimile of the original.

Typed matter, too, and printed forms, sketches, working drawings — Creed Facsimile takes them all in its stride.

With a Creed Facsimile System linking scattered locations, there is no waiting for messengers and mail—business operations are cut by hours or even days. And because Facsimile "puts it in writing," there are no verbal errors or misunderstandings... no chance of vital data being transposed, omitted or lost en route, every message is reproduced exactly as sent, at one or many selected destinations simultaneously.

Send for a copy of our brochure describing the many applications for the Creed Facsimile Communication System

**Creed & Company Limited**

TELEGRAPH HOUSE · CROYDON · ENGLAND



Makers of the Teleprinter

one of the  
latest additions  
to the renowned  
BRUNSVIGA range

## BRUNSVIGA

### adding listing machine

- \* single and double spacing printing mechanism
- \* error key for individual and total clearing
- \* automatic column indicator
- \* multiplication key
- \* scientific colour selection



for full details write to  
**BRUNSVIGA SALES COMPANY LTD.**  
40A FURNIVAL STREET, LONDON EC4  
TELEPHONE CHANCERY 3128/9

Represented throughout the country



## Saving soles

The EDISWAN Loudspeakerphone system provides an efficient loudspeaker link between the key points of any organisation. In offices, factories, schools, theatres, hotels and cinemas—anywhere, in fact, where time and effort must be saved. You press the button, speak and hear the reply. It's as simple as that. No energy or time wasted.

#### Two Models

'Master' unit 'A' for  
6 sub-stations £24-10-0

'Master' unit 'C' for  
10 sub-stations £27-10-0

Sub-stations each £4-5-0

Full details on request.



## EDISWAN Loudspeakerphone

THE EDISON SWAN ELECTRIC COMPANY LIMITED  
*Member of the A.E.I. Group of Companies*

155 Charing Cross Road, London, W.C.2, and Branches  
Telephone: Gerrard 8660. Telegrams: Ediswan, Westcent, London  
RP137





## Efficient Office Planning

The Anderson Type 'F' System of partitioning is designed to make the best possible use of floor space. Segregation of departments into quiet, orderly units improves working conditions and simplifies direction and control.

This modern system of unit construction, utilising extruded aluminium supporting members, embodies special features including rubber glazing beads and rubber inserts in architraves, reducing noise and vibration to a minimum. Choice of panelling may be made from a wide variety of attractive sheet materials. Speedy dismantling and re-erection to a new layout is made possible by simplified floor and wall fixing. Enquiries are invited. Please ask for literature.

## HIGH-GRADE PARTITIONING BY A · C · C

ANDERSON CONSTRUCTION CO. LTD.

CLIFTON HOUSE, EUSTON ROAD, LONDON, N.W.1 EU5ton 7465

*Agents throughout the United Kingdom and Overseas*

## HOW TO MAINTAIN GOODWILL

*Continued from page 83*

estimate that the number of people—general public and employees—who see each edition of *Home and Away* in the cinemas is between 50,000 and 60,000. The mobile shows are well-received, too; most of them attract "capacity" audiences of 150, and by the time the van has completed its schedule, one in every four employees has seen the film at the works. The van's itinerary is published on the notice-boards.

An edition of *Home and Away* includes two to four items, and the aim is to strike a balance between Babcock and Wilcox subjects and those which, though still related to the company's activities, have a wide general interest as well.

The main item in the latest edition shows another aspect of the company's "communications" programme—a visit by a party of four employees from the Renfrew works to the head office in London. Such visits take place at intervals of two or three weeks during the spring and summer. The men spend two days in London, meet senior executives who explain the work of the design, engineering, sales, erecting and other major departments, tour the offices, visit a power station to see Babcock plant in service, and have an informal interview with the managing director. (Reciprocal visits to Renfrew by members of the London staff are arranged at similar intervals.)

The film follows the "adventures" of four men on a typical visit. The second item—chosen because it offsets the emphasis on Babcock and Wilcox activities in the first—deals with pigeon-racing, a subject in which many local people are interested. Most of the fanciers who appear in it are the company's employees, and introductory shots show them at their daily jobs in the works.

It should be appreciated, of course, that the films represent only one aspect of employee-communications in the organization. Others include a system of joint production committees, a house magazine, and the exchange visits mentioned above. Recently the company have begun to try out, in one of the main shops, a scheme designed to "pep up" the works notice-boards by using exhibition techniques. Five attractively-designed display-boards, illuminated by strip-lights, have been set up at strategic points, and on these are appearing a series of posters emphasizing various aspects of the company's operations.

## THESE WORKERS BECOME EFFICIENCY EXPERTS

*Continued from page 103*

concerned visit the tryout department and inspect them. This ensures that their intentions have been interpreted correctly and, of course, it helps to keep alive their interest in the scheme. The new tools are then shown to the foremen of the shops in which they are to be used and to the inspection staff. These people are asked two questions: Are they good enough? Will they suit the operators? In this way, everyone who will be affected by the new methods has a chance to "say his piece" before the final step is taken.

After the tools have been approved and the new method has had a trial run in the workshops, a time study engineer interviews the operators, clears up any snags which have appeared, and fixes a new time for the job. Finally, the tool design office makes a drawing of each tool for its records.

### Members Informed

When this stage is reached, all members of the team which devised the method are informed of the results. Men from C.A.V.'s factory at Rochester (also included in the scheme get a written report, which expresses once again the management's appreciation.

Clerical work simplification courses follow much the same lines as those described above. For obvious reasons, more emphasis is placed on flow-process study and on special applications like form design. But individual operations are also studied, and from time to time a project leads to the development of new items of equipment or the modification of existing items. Work simplification films produced by a firm of office equipment manufacturers supplement the initial talks and demonstrations.

When C.A.V. introduced the work simplification scheme, it encountered a certain amount of scepticism—and a certain amount of resentment on the part of the operators. All opposition was quickly overcome, however, and today the scheme is judged purely and simply by results. On this score its rating among the employees is remarkably good.

But the company take the view that its value is much greater than the sum total of the direct savings produced by individual courses. Indeed, the main object of the scheme is to encourage employees throughout the organization to think in terms of work simplification during the rest of their working lives.

# One Foldmaster

can crease all kinds of paper in twelve different kinds of fold

## Faster than ten pairs of hands

In one hour it can handle up to five thousand sheets. There is an automatic feed for single sheets, and stapled sheets of paper can be hand-fed. In no time at all it will pay for its small outlay. Hand-operated machine from £16 10s. 0d., electric from £31. We'll be glad to demonstrate this remarkable machine to you in your office or at our showrooms.

*There is also the Foldmaster Collating machine  
8 compartments £24*

**Office Equipment Co.**  
113 High Holborn, W.C.1  
Telephone CHA 6524

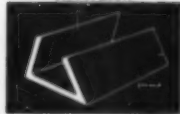
*For all kinds of new and second-hand office furniture*



*Two fold*



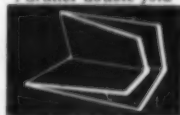
*Accordion*



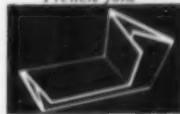
*Standard fold*



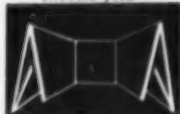
*Parallel double fold*



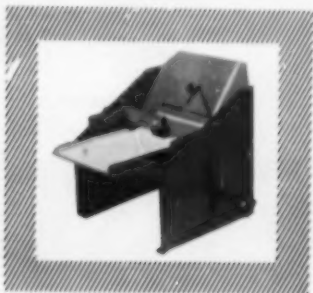
*French fold*



*Invoice fold*



*Horizontal fold*





## FIRE & THIEF RESISTING Doors & Frames

### Grade A4

Now available and can be fitted to any existing room in any building, by unskilled labour.

Far superior and more efficient than the old type and being tenants' fixture can be removed at will.

Made from Siemens Martin steel plate.

Grille Gate can also be supplied.



Registered Trade Mark

## SAMUEL WITHERS & CO LTD

PARK WORKS, BARTON STREET, WEST BROMWICH  
Telephone: West Bromwich 2065/6  
Also at 39 HOXTON SQUARE, LONDON N.1.  
Telephone: Shoreditch 7773

## YOUR FLOORING PROBLEM *Solved*

We will gladly send—without obligation—an expert anywhere, any time, to discuss and advise on any problem regarding the flooring of

**CANTEENS FACTORIES  
OFFICES and SHOWROOMS**

Do not hesitate to write or call

For 30 years we have specialised in all types of flooring, including

RUBBER, LINOLEUM, CORK,  
MAGNESITE COMPOSITION, WOOD  
BLOCK and PARQUET, WOOD  
MOAIC, TERRAZZO PAVING,  
THERMO-PLASTIC, WALL and FLOOR  
TILING

Old and New Floors Resurfaced

Illustrated Booklet "Beautiful Flooring," No. 2  
sent free on request

**GREAT METROPOLITAN  
FLOORING CO. LTD.**  
73 KINNERTON STREET,  
KNIGHTSBRIDGE, S.W.1.  
SL0ane 0047 (7 lines)

## ? ARE YOU BANDY-MINDED



RUBBER BANDS of suitable size and strength can cut costs considerably and speed up production. In almost every industry rubber bands can be used to great advantage. We will gladly suggest ways in which rubber bands can save your time and money. Simply write or phone for samples, details and ideas to

## COOMBS of WIMBLEDON

Sole makers "STANDARD BRAND" Rubber Bands  
**H. A. COOMBS LTD.**  
Standard Works, Richmond Road  
Wimbledon, S.W.28

Phone: WIMbledon 6555. Grams: Abantment, Wimbles, London  
and at  
30 Hyde Road, Manchester 12 (Ardwick 6012)  
40 West Nile Street, Glasgow, C.1 (Central 3343)

## "CYBERNETICS"

Continued from page 85

If we were to discuss how far this is true, we should get into philosophical depths too great for the time at our disposal or for the occasion. Let us assume then that it is completely true. The analogy still serves to crystallize in the clearest way the fundamental problems of the manager of men. If the last stage has its own peculiar difficulties, the analysis is none the less useful.

First, I commend to you the basic idea that action should be controlled by the observed difference between what is and what ought to be. This, I agree, should be obvious enough; yet it requires of a manager powers of objectivity as well as of observation which are still rare. I remember the comment of a wise and successful man of affairs on the behaviour of a well-known public figure. He said:

*With X the knowledge that something is wrong provokes an ungovernable desire to act. This produces action; and this in turn relieves the urge. The cycle is completed and he feels satisfied, irrespective of what the result may be. The next stimulus will send him off on another cycle of action; but he won't ask himself whether it was caused by his own wrong action last time. He is never at a loss what to do; sometimes he even does the right thing; but he is not himself controlled by results, so he cannot be a controller. He is merely an executive.*

A devastating criticism but one which it is all too easy to merit. Let us hope that the spread of cybernetic ideas may build up our standards of what to expect in this respect from each other and even from ourselves.

## Human Relations

Next, it seems to me that this way of thinking helps to make sense of current ideas regarding human relations. Industrial consultation, for example, is based on the theory that human communication must be two-way if it is to fulfil its purpose adequately; but many of those who practice it are by no means clear that this is so. Business organizations are still haunted to some extent by ways of thinking which belong to "open-circuit" rather than to "closed-circuit" methods of control; that is by the idea of one-way rather than two-way relationships; and

even where it is accepted that the chain of command should carry information upwards as well as carrying orders downwards, the difference between an order and a piece of information tends to be exaggerated. In a mechanical system the information "automatically" produces the right action.

There is no difference between "information" and "order"; and this is true of human organizations in proportion as they work well. We shall do well to regard organizations as structures of feedback, rather than structures of authority.

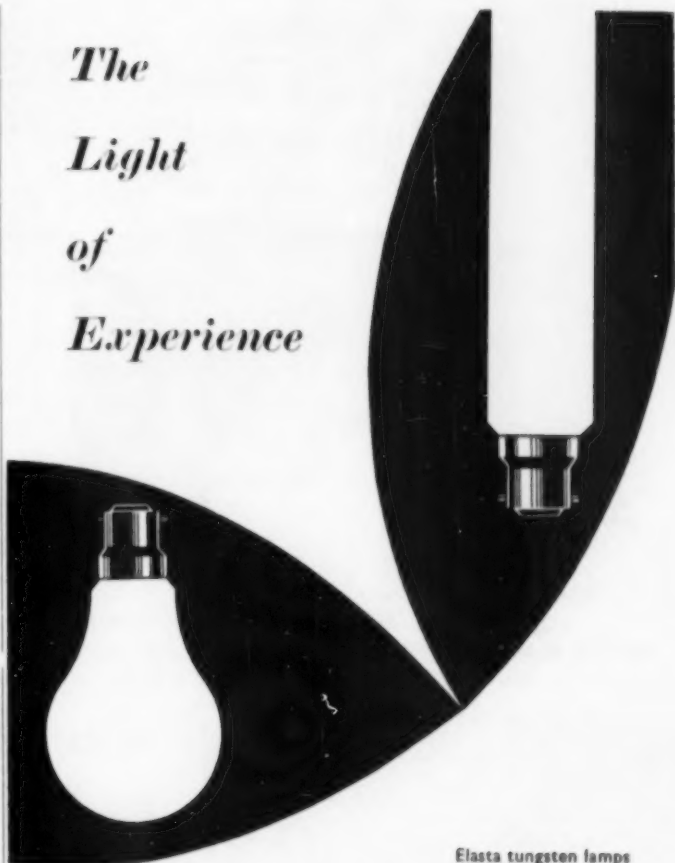
### *Common Diseases*

Again, I find that the diseases of mechanical control systems throw much light on the diseases of human organizations. Thus control systems are prone to oscillate; and this is due to some defect in the organization of feedback. Sometimes it is too sluggish, so that the correction comes too late. Sometimes it is too sensitive, so that the correction is too violent. Sometimes it is not sufficiently selective, so that disturbances are transmitted to parts of the assembly which cannot usefully deal with them. All these diseases have close parallels in the diseases of organizations. I would particularly stress the last, for I believe that the first impact of these ideas on human organization has been to promote the uncritical multiplication of feedback circuits in the belief that you can't have too much of a good thing. This I believe to be a mistake.

Again, systems which have attained stability may become unstable. Feedback may become positive—it may operate not to compensate but to exaggerate error. The study of stability and the conditions which maintain it yields principles which I believe to be of great value and relevance to the control of human affairs.

Indeed, the idea of stability needs much further thought. We are accustomed to think of human organizations as "goal-seeking" rather than "stability-seeking" and I find it inconvenient to extend the idea of stability, as is often done, to include the state of having reached a goal, because organizations often fall into conflict between the desire to attain a goal and the desire to maintain stability. This is the familiar problem of resistance to change. I think myself that this problem can be greatly illuminated by pursuing further the cybernetic concept of stability which is, of course, a dynamic conception, and I wish I had time to pursue it further now.

## *The Light of Experience*



Elasta tungsten lamps were first made in the early 1900's. There is nearly half a century of experience behind the Elasta lamps you buy today. For every lighting installation it pays to choose wisely—choose Elasta.

### *Tungsten Filament and Fluorescent*

POPE'S ELECTRIC LAMP CO. LTD. Head Office: 5 Earslow Street, New Oxford Street, London, W.C.2  
Branches: Manchester, Leeds, Leicester, Birmingham, Bristol, Belfast, (Northern Ireland)

You can  
get the wood  
you know!



- ★ The price is right
- ★ The quality is guaranteed

Rounded corners —  
solid construction

There is a desk or table to  
suit every need.

Full details and leaflets from the National Distributors

**OFFICE MACHINERY LTD.**, Omal House, 22 Kingly Street, London, W.1. Tel.: REGent 8833  
(Also National Distributors of Vickers-Armstrongs Steel Office Equipment)



**WESTWOODS**

### INDUSTRIAL STEEL SHELVING

Storage Bins, Clothing Lockers, Cupboards

Makers of Steel Storage Equipment for 25 years

**JOSEPH WESTWOOD & CO. LTD.**

Napier Yard, West Ferry Road, Millwall, E.14.

Phone: EASt 1043 (4 lines)

### It is late . . .



### . . . but not too late

to order Conrad's Day Pads—the favourite  
presentation gift for the Man who Matters.  
Please contact us early this month.

**THE CONRAD PRESS LIMITED**  
193 Sloane Street, London, S.W.1.

Sloane 6151-3  
**BUSINESS**



# SKANDEX

## visible records

**save time, trouble, costs  
in all record routines**

SKANDEX saves executive time — because all business facts are collated for instant reference, colour-signalled to pinpoint situations demanding attention. SKANDEX saves clerical time — because posting operations are cut to a minimum. Compact SKANDEX makes the most of valuable office space — and is available in Cabinet or Book Unit form.



### ASK YOUR DEALER

Standard SKANDEX applications include Sales, Personnel, Plant Inventory, Hire Purchase and Stock Control. Your usual office equipment dealer will explain and demonstrate its uses in your organisation.

A PRODUCT OF REMINGTON RAND

## Just out



The new 'SPIRALUXE' Mk. II is the ideal means of heating Offices, Board Rooms, Consulting Rooms, etc.—its positive air circulation providing comfortable even warmth rapidly. Note these great new features—Smooth exterior to avoid collection of dust. New type motor contained within casing. Improved design of heating element. Smartly designed and sturdily constructed to give years of trouble-free service. Attractively finished in Polychromatic Bronze. Available either as a Portable Model or for Wall Mounting (2 or 3 K.W.). 12 months' Guarantee.

## SPIRALUXE

**Unit Heaters**

(Write for List No. 114B.)

PLEASE HURRY  
ORDER NOW  
FOR EARLY  
DELIVERY

THE SPIRAL TUBE & COMPONENTS CO. LTD.  
Osmaston Park Road, Derby Tel. DERBY 48761 (3 lines)  
London Works: Honeypot Lane, Stanmore, Middlesex

DECEMBER, 1955

## ADDMASTER

**RAPID ADDING &  
SUBTRACTING MACHINES**

- For book-keeping and stock-taking in shops, offices and factories.
- Can be mastered in a few minutes.
- Noiseless, easy operation. No keys to punch.
- Results appear immediately. Totals always visible.
- Cannot make a mistake.
- Fully guaranteed.

Immediate delivery at a price even small businesses can afford from:



£7 : 0 : 0 (incl. P.T.)

In metal stand or leather case

**K. BISSET & CO. LTD.** (Dept. B),  
145, Grand Buildings, Trafalgar Square, London, W.C.2  
(Trafalgar 4177)

## Helmsman

### TWIN TYPE STEEL CLOTHES LOCKERS

Patent No. 699842

These lockers provide separate accommodation for two persons and save over one third in floor space. 60% more lockers on a given wall area.

PRICE £4 - 16 - 9 PER PERSON (£9 - 13 - 6 per Twin Locker)

Standard size: 72" x 15" x 12", other sizes 18" and 20" deep (the last two sizes have rails for coat hangers).

OTHER TYPES ALSO AVAILABLE

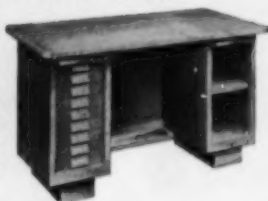
### The "VEDETTE" ALL STEEL DESK

Price from £12-14-9  
plus tax £2-7-10 (as  
illustrated £21-1-9  
plus tax £3-19-1)

Choice of ten designs

Nine drawers for each unit, removable shelves in cupboard. Available with two drawer units, two cupboard units or one pedestal and plain leg. Size 48" x 24" x 27 1/2" high. Finished stove enamel, with Wearite top.

Free Delivery London Area



**W.B. BAWN**  
FURNITURE

Byron Works, Blackhorse Lane, E.17

★ Mr. Quin at Larkwood 4411 will answer your enquiries.

As the makers we offer:  
Quantity discounts; Special prices for complete installations; Normal business credit terms; Prompt delivery; Choice of colours.

**QUALITY AT THE RIGHT PRICE**



Just the book  
for a  
Christmas gift

**ON SALE DEC. 9**

## WHITAKER'S ALMANACK

The 1956 edition of Whitaker's Almanack is packed with concise information on all the topics that matter to men and women today. Very fully indexed for quick reference, it contains over 1,000 pages of facts and figures plus a 16-page photographic supplement. Remember, an out-of-date copy can be very misleading, so make sure of the new Whitaker.

With WHITAKER you can't go wrong about

**POLITICS.** All about the new Parliament. Foreign affairs: Facts and figures about the U.S.A., U.S.S.R. and all other foreign countries; U.N.O.  
**HOME AFFAIRS.** Government departments. Statistics for everyone: from city populations to flying speeds, book sales to burglary fig-

ures. Directories of Banks, Insurance, Clubs, Trade Unions, etc.  
**SPORT.** Classic winners. Olympic records. Batting and bowling averages. Cup finals. Rugby results. All other sports.  
INFORMATION in innumerable other fields from Atomic Energy to Income Tax.

1,193 pages for 17/6. Shorter Edition, 700 pages 10/-

Also (ready December 19) Library Edition, leather, 30/-.

FROM BOOKSHOPS AND RAILWAY BOOKSTALLS. PUBLISHED BY

J. WHITAKER & SONS LTD., 13 BEDFORD SQUARE, LONDON, W.C.1.

Perfectly appointed  
perfectly situated

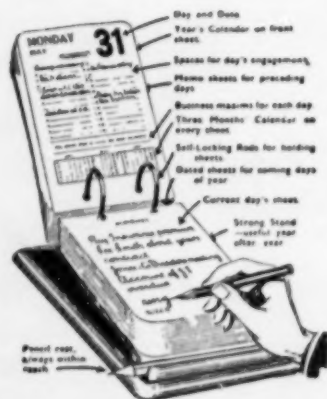
## PARK LANE HOUSE

45 PARK LANE, W1

GRO 7711

for TV and press shows  
& conventions

## IDEAL ADVERTISING GIFTS



Your name and address or advertisement can be overprinted in colour on each daily sheet.

Send for illustrated leaflet to:—

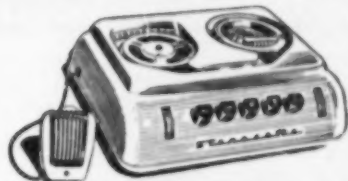
**SHAW PUBLISHING CO. LTD.**

180 FLEET STREET, LONDON, E.C.4

Tel. CHA 9844



"We're glad we bought  
our "Stenorettes" from  
**Brown & Bretherton**  
because . . . .



*Stenorette*

DICTATING MACHINE  
**only 35 gns.**  
accessories extra

- (1) Being Business Systems Consultants and experts in office systems and methods, Brown and Bretherton went to great pains to ensure that all our staff knew how to get the best out of our Stenorettes. Theirs was no mere "over the counter" sale!
- (2) After we had had our Stenorette equipment for a short time, Brown and Bretherton made a point of contacting us to smooth out any problems or difficulties. They did not leave us "holding the baby" but took a genuine interest in us.
- (3) As part of their really efficient servicing facilities, should one of our machines be out of commission for servicing Brown and Bretherton will loan us a replacement until ours is returned. In this way our work is not held up.

YOU, TOO, SHOULD BUY YOUR STENORETTE EQUIPMENT FROM EXPERTS—

**BROWN & BRETHERTON,**

BUSINESS SYSTEMS CONSULTANTS  
2 Glendower Place, London S.W.7

TELEPHONE  
**KNI 1491**

**Filed  
or  
Found  
in  
Fifty  
Seconds**



Open the appropriate filing drawer and a neat alphabetical range of titles meets your eye. At once you select or insert the papers that are wanted. **So easy, so quick**, so genuinely pleasant is *Expandex Suspended Filing System*, the most up-to-date of all.

- ★ Full Visibility of titles to all drawers.
- ★ Six standard stock Colours
- ★ Telescopic End pieces ensure positive free movement.
- ★ Easy filing and Easier finding.

Write for illustrated Leaflet and details of *Expandex Suspended Filing*

**EXPANDEX VISIBLE FILING**  
CO. LTD.

23 BRUTON STREET, LONDON, W.1.  
Telephone: MAYfair 6192.

**BISLEY**  
*The Perfect Range*

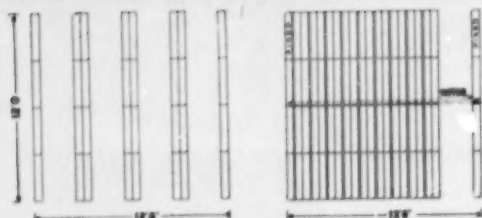


- of Cabinets
- Cupboards
- Index Cabinets
- Floor Ashtrays
- Letter Trays
- Multi-drawer Cabinets
- Stationery Cabinets
- Stationery Racks
- Transfer Cases
- Waste Paper Bins

Write for Illustrated List

**F.C.BROWN**  
BISLEY, SURREY

## 150% increase in Storage Capacity



Before:  
18ft. of shelving

After:  
27ft. of shelving  
INCREASE 150%

These diagrams show the vastly increased storage space provided by COMPACTUS in a Tuberculosis Hospital. COMPACTUS — the motorised system — spells extra capacity plus easier working.

Leading Insurance Companies, Banks, Institutions and Business Houses at home and overseas, are changing over to COMPACTUS. Send for the "Space" Man to advise on your storage space problems.

Existing fixed and mobile installations can be converted to COMPACTUS — almost no "cut to its application."

# COMPACTUS

Worth its weight in GOLD

(World Patents)

J. GLOVER & SONS LTD., Sole Licensees and Manufacturers, 79 Grotton Road, London, S.W.18

Telephone: Battersea 6511

## NON-RUSTING STEEL SHEETS for DEEP DRAWING WITHOUT FLAKING

PAINTING AND  
ENAMELLING WITHOUT  
PRIMING COAT

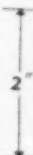


The extra deep-drawing qualities of ZINCOR Strip Mill Electro-Galvanised Steel Sheets are clearly conveyed by the unretouched picture above. These sheets are available for immediate delivery in the U.K. or for shipment to other markets from the mills of our principals, S. A. des Toleries Delloye-Matthieu. Details and samples from sole U.K. agents.

## ADAM & HARVEY LTD.

GREENWICH HOUSE, 19-15 NEWGATE STREET  
LONDON, E.C.1

Phone: City 6671 (10 lines) Telex: London 8433



**Presto-Fold**

HAND-OPERATED OFFICE  
FOLDING MACHINE

Folds  
3,000  
per hour

**38 GNS.**

FULLY GUARANTEED

**DENBY MOORE & CO., LTD.,**  
4-5 Bridgewater Square, Barbican,  
London, E.C.1 Tel. MONarch 1713

## Modern Times Demand Modern Methods...

PRICES FROM  
£97.10.0



H.P. TERMS  
ARRANGED

## THE REGNA CASH REGISTER CO

(Proprietors: The Jodel Sale Co. (London) Ltd.)

27 JOHN ADAM ST., LONDON, W.C.2

Scottish Branch Office:

27 Oswald Street, Glasgow, C.I. Phone: Central 3710

**REGNA**  
CASH REGISTER

Telephone  
TRAfalgar  
3710



**SOLVE**  
PROBLEMS OF  
ABSENTEEISM  
FLOOR SPACE  
WELFARE

WITH THE **AIR-DRY  
SIEBER HANGER SYSTEM**

Patent No. 415653 Des. Reg. No. 789558

- **HEALTH** damp clothing thoroughly dried and aired.
- **HYGIENE** no musty cupboard odour, no dirt traps.
- **SPACE** floor space saved pays for initial outlay.
- **COST** low-yet service everlasting.

Installed in Factories, Stores, Shops, Hospitals, etc.

**JAMES SIEBER EQUIPMENT CO. LTD.,**

1 Africa House, Kingsway, London, W.C.2.

Telephones: HOLBORN 5121 and 4531

**SWISS JEWELLED LEVER**

**STOP WATCHES** ALL ARE FULLY GUARANTEED

Whatever you have for a "Timer" use a PRESTONS STOP-WATCH. They are all top-quality Swiss precision instruments.

Send for our Price List, "Swiss Timers in Industry"

**PRESTONS LTD.** TEL. BOLTON 80-07



BOLTON (EST. 1869) LANC. DU-07

## MUST WE BE HEROES?

And fight the Fire Fiend without NU-SWIFT? But why? Even the Royal Navy don't do that. Please send us details of your wonderfully rapid and reliable Fire Extinguishers—BEFORE IT IS TOO LATE!

Name .....

Address .....

Post NOW to Nu-Swift Ltd. 25 Piccadilly W.1.

In Every Ship of the Royal Navy





## CLASSIFIED ADVERTISEMENTS

### AGENTS WANTED

**Large Furniture Manufacturers require Agents to sell new range of Office Furniture—New Waterfall edge finish on all tops. All areas except Lancashire, Yorkshire and North East Coast. Box No. 1364, c/o BUSINESS, 180 Fleet Street, E.C.4.**

### APPOINTMENT WANTED

**APTITUDES and ATTITUDES.** If you were impressed by the recent article in **BUSINESS** and would like to employ a sane, balanced and efficient psychologist with highest qualifications and excellent industrial record, write Box No. 1363 c/o BUSINESS, 180 Fleet Street, E.C.4.

### BOOKS AND PUBLICATIONS

**SEVEN DAY COURSE in Economics, 52 pp., 2/9; Elementary Accounts, 64 pp., 3/9; General Accounts, 64 pp., 3/9; Cost Accounts, 40 pp., 2/9; Partnership, 60 pp., 3/9; Mercantile Law, 2/-; Bankruptcy, 2/-; post free from R. A. Starnes, F.C.I.S., 32 Essenden Rd., St. Leonards-on-Sea, Sussex.**

**AMERICAN BOOKS—a varied selection in stock always. Periodicals on Annual subscription. Call, phone or write 82 Neal Street, W.C.2 (Tem 7128).**

### FILING EQUIPMENT

**Improved Letter Files. Ask for list. Gazebo, 57 Packington Road, Acton, London, W.3. ACORN 4731.**

### FOR SALE

**A Class 'A' Underwood Accounting Machine, in use for less than two years—£470. Cost price, £695. For further details phone London Office Machines Ltd., SLOane 1626.**

**ADREMA and ADDRESSOGRAPH Equipment, approx. 3,500 Model 111R ADREMA frames, 900 BB ADDRESSOGRAPH Frames and 7,500 BB Plates for sale. Will accept half makers' price to clear this stock. Box No. 1367, c/o BUSINESS, 180 Fleet Street, E.C.4.**

**OFFICE MANAGERS can obtain two reliable Accoustic Dictaphone Transcribing Machines at a reasonable figure. (Reg. Nos. 44583 and 46351). Write Box No. 1366, c/o BUSINESS, 180 Fleet Street, E.C.4.**

**National 2,800 Class Analysis Machine, 29 totals—as new—regularly serviced by manufacturers. Best offer over £1,000. Apply Box No. 1368, c/o BUSINESS, 180 Fleet Street, E.C.4.**

**One Roneotype Rotary Letterpress Printing Machine, Model 59, on stand. Friction feed and inking attachment, also hand feed, 3 Curved Segments (but no type). Maximum type area 8½" x 12½". Suitable for 240V D.C. Offers to Box No. 1369, c/o BUSINESS, 180 Fleet Street, E.C.4.**

## PHONOTAS SERVICE

Weekly Telephone Cleaning and Sterilising

**The Phonotas Co. Ltd. HOL 7221**  
125 High Holborn, London, W.C.1

See our advertisement in previous issue

## GUIDEX for VALUE

**FILING AND LOOSE LEAF EQUIPMENT**

STOCKED BY  
GOOD STATIONERS EVERYWHERE

CATALOGUE FROM:  
THE TRADE LOOSE LEAF CO. LTD. BIRMINGHAM 12

**FULL STEAM IN FIVE MINUTES** with B. & A. Electrode Boilers. Used by British industries for 20 years. No boilerhouse, no flue, no attendant needed. The most compact and convenient steam raisers available, can go beside machines using the steam. Write for leaflet 107. Bastian & Allen Ltd., Ferndale Terrace, Harrow.

**Addressograph Electric Addressing Machine, Class 22000 in excellent condition, £85. Steel Cabinets 100 tray capacity, £70 each. Box No. 1360, c/o BUSINESS, 180 Fleet Street, E.C.4.**

**Kardex, Roneodex and Shannon Cabinets, as new. F. H. Jolly & Co. Ltd., 289 King Street, London, W.6. RIV 5381.**

**"Addressograph" Machines (rebuild-guaranteed). Cabinets, Frames, plates and accessories. Nevard Dessoy & Co. Ltd., 102-105 Shoe Lane, London, E.C.4.**

### MISCELLANEOUS

**Film shows at your children's Christmas party, in the works or at home. D.F.P. Ltd., High Street, West Drayton, Middlesex. West Drayton 2474.**

### SACKS AND BAGS

**You want the best type and the quickest delivery. John Braydon Ltd., 26 The Highway, London, E.1. ROYAL 1044.**

### TAPE RECORDER HIRE SERVICE

**Magnetograph Ltd., 1 Manway Place, London, W.1. Tel: LANGHAM 2156. Sole Agents for VOXTAPE OVERSEAS SERVICE.**

### TRANSLATIONS

**RAPID and accurate translations from and into all languages. 2/6 for 70 words. SECTRA, 20 Buckingham Street, London, W.C.2. TRAlslgar 2456.**

### WANTED

**FACIT CALCULATING MACHINES.**

**HAND MODELS TK and NTK.**

**ELECTRICAL MODELS EK, EA, NE, NEA, ESA & ESAQ.**

Secondhand, in bulk quantities. Other Continental makes may also be of interest. Please supply details to Box No. 1361.

### WANTED

**80 Col. Hofferith Tab. Skip Alpha Punches. Box No. 1365, c/o BUSINESS, 180 Fleet Street, E.C.4.**

**Due to expansion programme user requires from other users a number of each of the following machines for Toolroom and Production. Vertical and Horizontal Mills, Capstan and Turret Lathes, Autos, Surface Grinders, Shapers, Tappers. Motorized 400 3/50. Prompt inspection and decision. Details to Box No. 1357, c/o BUSINESS, 180 Fleet Street, E.C.4.**

**Addressograph equipment complete, and/or Cabinets, frames, accessories, etc. Box No. 1352, c/o BUSINESS, 180 Fleet Street, E.C.4.**



**1955 Brand New  
STEEL SHELVING  
Everybody's Using It Now!  
WHY PAY MORE?**

**Free Quotations  
All Sizes Available  
—Stove Enamelled—**

Best Quality	Complete	Exten.
Ht. Wch. Dpth.	& Shelves	Bayes
72" x 24" x 14"	£4.15.3	£3.15.9
72" x 33" x 12"	£4.19.6	£4. 5.6
72" x 36" x 9"	£4. 2.6	£3. 7.3
72" x 36" x 14"	£5. 2.0	£4. 4.6
72" x 36" x 18"	£7. 8.3	£6. 4.3
84" x 33" x 12"	£6. 8.0	£5.14.6

\* Free Delivered London Area \*  
Extra Shelving all sizes 9/9 to 15/- each  
DEICHES Store Shelving (Dept SS/BS)  
102A Hindes Road, Harrow, Middlesex  
Please write for particulars, appointment only to view

## CALCULATING SERVICES LTD

### MACHINE OPERATING EXPERTS

**We undertake all kinds of adding, calculating and statistical figure work including STOCK SHEETS, ESTIMATES, etc. Many large and small firms throughout Great Britain use our service. If interested send for brochure C.5.6.**

### LONDON OFFICE:

139 Crawford St., at Baker St., W.1  
Tel.: Wel. 4328. Miss Harper

### BIRMINGHAM OFFICES:

1 Albert Street, 4. Tel.: Cen. 4541  
Miss Lefroy. (Established 22 years)

## REBUILT ACCOUNTING MACHINES

for prompt delivery. All equipment fully guaranteed for one year. Maintenance service available on expiry of guarantee. Free preparation of systems, training of operators and installation services.

**H. H. DURHAM LTD.,**  
85 BLACKFRIARS RD., LONDON, S.E.1  
Tel. WATerloo 6081-2

## Adding Machine Service Co.

Accredited dealers for

**BURROUGHS**

**VICTOR**

**OLIVETTI**

**ADDO**

100 MOUNT STREET, LONDON, W.1.  
Tel.: GRO 2474

## CALCULATING & ACCOUNTING



**MACHINES**



**SALE HIRE WANTED**

**ADDING MACHINE EXCHANGE**  
81a Gray's Inn Road, W.C.1. HOL 3239

## Your Transport Problems Solved by Experts

Consult

**PSA Transport Limited,**  
47 Whitcomb Street, London, W.C.2.

Telephones: WHI 9161/7

Telegrams: PSATRANS. Telex: 8308

**AIR-FREIGHT  
SEA AND LAND  
TRANSPORT**

to Continental  
and Overseas  
Destinations.

## TARPAULINS

FOR

## HIRE

**S. LOMAS & Co.**  
(TARPAULINS) LTD.

**WARD ROAD WORKS,  
LONDON, E.15**

MARYland 3616



## CLASSIFIED GUIDE TO BUSINESS AND INDUSTRIAL EQUIPMENT & SERVICES

### ACCOUNTING MACHINES

Burroughs Adding Machine 64  
 Logabax Ltd. 34  
 National Cash Register 74  
 Remington-Rand Ltd. 5, 27, 161  
 Underwood Business Machines Ltd. 72

### ACCOUNTING SYSTEMS

Anson, Geo., & Co. Ltd. 102  
 Art Metal Construction 106  
 Carter-Davis Ltd. 106  
 Copeland-Chatterton Co. 29  
 Kalamazoo Ltd. 30  
 Lamson Paragon Ltd. 105  
 Powers-Samas Ltd. 17  
 Ronco Ltd. 123  
 Shannon Ltd. 143

### ADDING MACHINES

Bisset, K., & Co. Ltd. 161  
 Block & Anderson Ltd. 21  
 British Olivetti Ltd. 6  
 Brunsviga Sales Co. Ltd. 155  
 Bulmer's (Calculators) Ltd. 45  
 Burroughs Adding Machine National Cash Register 74  
 Office Machinery Ltd. 160  
 Sumlock Ltd. 113  
 Taylor's Typewriter Co. Ltd. 38  
 Underwood Business Machines Ltd. 72  
 Van Der Velde (Office Equipment) Ltd. 28

### ADDRESSING MACHINES

Addressall Machine Co. 119  
 Addressing Machines (Hayward) Ltd. 144  
 Adreco Ltd. 129  
 B.E.M. Ltd. 147  
 Block & Anderson Ltd. 21  
 Ronco Ltd. 123

### ADDRESSING MACHINE ATTACHMENT

Alacra Ltd. 117  
 Fanfold Ltd. 140  
 Lamson Paragon Ltd. 105

### ADVERTISING GIFTS

Conrad Press Ltd. 160

### AIR TRANSPORT

British European Airways Ltd. 56

### ANTI-VIBRATION MACHINES MOUNTS

Cemensation (Muffelite) Ltd. 109

### ASSURANCE

General Accident Fire and Life Assurance Corp Ltd. 3

### BOOKS AND PUBLICATIONS

Financial Times 48  
 Smith, W. H., & Son Ltd. 147  
 Whitaker's Almanack 162

### BROADCAST MUSIC

Dictograph Telephones 7  
 Telephone Rentals Ltd. 70

### BUSINESS ACCESSORIES

Coombs, H. A., Ltd. 158

### CALCULATING MACHINES

Block & Anderson Ltd. 21  
 British Olivetti Ltd. 6  
 Brunsviga Sales Co. Ltd. 155  
 Bulmer's (Calculators) 45  
 Burroughs Adding Machine 64  
 Famous Calculating and Adding Mch. Co. Ltd. 147  
 Felt & Tarrant Ltd. 168  
 Office Equipment (B.T.L.) Ltd. 40, 127  
 Office Machinery Ltd. 160  
 Sumlock Ltd. 113

T.S. (Office Equipment) Ltd. 142

Taylor's Typewriter Co. Ltd. 38

### CALCULATING SERVICES

Calculating Services Ltd. 165

### CANTEEN EQUIPMENT

Educational Supply Association Ltd. 139

### CASH REGISTERS

National Cash Register 74  
 Office Machinery Ltd. 160  
 Regna Cash Register 164

### CASTINGS

Renfrew Foundries Ltd. cover ii

### CHARTS AND PLAN BOARDS

Adapta Charts Ltd. 14  
 Block & Anderson Ltd. 21  
 Dacron Ltd. 145  
 Remington-Rand Ltd. 5, 27, 161

### CINE EQUIPMENT

Distributors of G. B.-Bell & Howell Cine Equip. 62

### CLOAKROOM EQUIPMENT

Abix (Metal Industries) Ltd. 134  
 Bawn, W. B., & Co. Ltd. 150  
 Harvey, G. A., & Co. Ltd. 150  
 Westwood, Joseph & Co. Ltd. 160

### COIN COUNTING MACHINES

International Coin Counting Machine Co. Ltd. 10

### CONDENSERS

Dubilier Condenser Co. (1925) Ltd. 120  
 Telegraph Condenser Co. 41

### CONTINUOUS STATIONERY

Alacra Ltd. 117  
 Carter-Davis Ltd. 106  
 Copeland-Chatterton Co. 29  
 Egly Ltd. 167  
 Fanfold Ltd. 140  
 Hunt & Colleys Ltd. 140  
 Lamson Paragon Ltd. 105  
 Petty & Sons Ltd. 114

### COUNTING AND NUMBERING MACHINES

English Numbering Mch. 125

### CYCLE PARKS

Abix Ltd. 134

### DICTATING & RECORDING EQUIPMENT

Brown & Bretherton Dictaphone Co. Ltd. 8, 9  
 Dictator Ltd. 146  
 E.M.I. Sales & Services Ltd. 66  
 Haycraft, M. & L., Ltd. cover iv

Office Machinery Ltd. 160

### DRAWING OFFICE EQUIPMENT

Haycraft, M. & L., Ltd. cover iv

West, A., & Partners 128

### DUPICATING MACHINES

Block & Anderson Ltd. 21  
 Bulmer's (Calculators) 45  
 Denby Moore & Co. Ltd. 164  
 Gestetner Ltd. 160  
 Office Machinery Ltd. 160  
 Ronco Ltd. 123  
 Rosaprint Ltd. 143

### ELECTRIC CLOCKS

Dictograph Telephones Gent & Co. Ltd. 118  
 I.B.M. United Kingdom Magneta Time Co. Ltd. 151  
 Synchronome Co. Ltd. 151  
 Telephone Rentals Ltd. 70

### FACSIMILE COMMUNICATION SYSTEM

Creed & Co. Ltd. 152

### FACTORY EQUIPMENT AND ACCESSORIES

Adam & Harvey Ltd. 164  
 Sankey-Sheldon Ltd. 31

### FILING AND VISIBLE RECORD SYSTEMS

Art Metal Construction 106  
 Block & Anderson Ltd. 21  
 Bulmer's (Calculators) Ltd. 45  
 Copeland-Chatterton Co. 29  
 Expandex Visible Filing 163  
 Jones, Percy, Ltd. 110  
 Kalamazoo Ltd. 30  
 Lamson Paragon Ltd. 105  
 Remington-Rand Ltd. 5, 27, 161  
 Ronco Ltd. 123  
 Sankey-Sheldon Ltd. 31  
 Seldex 15  
 Shannon Ltd. 143  
 Tidxex Ltd. 139

### FIRE ALARM SYSTEM

Gent & Co. Ltd. 118

Telephone Rentals Ltd. 70

### FIRE EXTINGUISHERS

Nu-Swift Ltd. 164

### FLOORING

Great Metropolitan Flooring Co. 158  
 Perring, John, Ltd. 145  
 Rubberware Ltd. 44

### FLUORESCENT DISPLAY UNIT

C.W.S., Dudley 12

### FOLDING MACHINES

Block & Anderson Ltd. 21  
 Denby Moore & Co. Ltd. 164  
 Office Equipment Ltd. 157

### GUMMING AND GLUING MACHINES

Haycraft, M. & L., Ltd. cover iv

### HEALTH SERVICES

Advance Linen Services Ltd. 130  
 Crypto Ltd. 135  
 Cuxson Gerrard & Co. 133  
 Freeder Brothers 135  
 Horton Mfg. Co. Ltd. 133  
 Peter's Automatic Mchs. 135  
 Southalls (B'ham) Ltd. 133  
 Vernon & Co. Ltd. 132

### HEATING

Copperad Ltd. 33  
 Dimplex Ltd. 46  
 Spiral Tube Ltd. 161

### INDUSTRIAL CLEANING

B.V.C. Eng. Co. 153  
 Johnson, S. C., & Son Ltd. 136  
 Lamson Engineering Co. 152  
 Shell Chemicals Ltd. 39

### INSURANCE

Vulcan Boiler and General Insurance Co. Ltd. 123

### LETTER OPENING MACHINES

Block & Anderson Ltd. 21  
 International Coin Counting Machine Co. Ltd. 10

### LIGHTERS

Ronson Products Ltd. 151

### LIGHTING

Lumenated Ceilings Ltd. 148  
 Philips Electrical Ltd. 47  
 Pope's Electric Lamp Co. Ltd. 159

### LOOSE LEAF LEDGERS AND SYSTEMS

Art Metal Construction 106  
 Copeland-Chatterton Co. 29  
 Jones, Percy (Twinklco) 110  
 Kalamazoo Ltd. 30

Lamson Paragon Ltd. 105

Shannon Ltd. 143

### MICROFILM CAMERAS

Edison Swan Electric Co. 155

Kodak Ltd. 122

### NOISE PREVENTION

Burgess Products Ltd. 4

### OFFICE FURNITURE (STEEL)

Art Metal Construction 106  
 C.W.S., Dudley 12  
 Harvey, G. A., & Co. Ltd. 150  
 Perring, John, Ltd. 145  
 Educational Supply Association Ltd. 139  
 Everaust Ltd. 42  
 Leabank Office Equipment Ltd. 129  
 Office Machinery Ltd. 160  
 Pilkington Brothers Ltd. 22  
 Powers-Samas Accounting Machines Ltd. 17  
 Ronco Ltd. 123  
 Sankey-Sheldon Ltd. 31  
 Tan-Sad Chair Co. Ltd. 123  
 Tidxex Ltd. 139

### OFFICE FURNITURE (WOOD)

Maple & Co. Ltd. 19  
 Office Machinery Ltd. 160  
 Perring, John, Ltd. 145  
 Shannon Ltd. 143

### OVERALLS

Wheeler, H., & Co. Ltd. 168

### PACKING

Bemrose & Sons Ltd. 63  
 Gordon & Gotch Ltd. 43  
 Goshorn, John, & Co. 62  
 Johnson & Johnson (Gt. Britain) Ltd. 26

### PAINTS

British Paints Ltd. 37

### PARTITIONING

Abix Ltd. 134  
 Anderson Construction Co. Ltd. 156  
 Art Metal Construction 106  
 Ronco Ltd. 123  
 Sankey-Sheldon Ltd. 31

### PENSION CONSULTANTS

The Noble Lowndes Pension Service 52

### PHOTOGRAPHIC REPRODUCING EQUIPMENT

Anson, Geo., & Co. Ltd. 102  
 Block & Anderson Ltd. 21  
 Copycat (Associated) Marketing Ltd. 42  
 Edison Swan Electric Co. 155  
 Iford Ltd. 20  
 Kodak Ltd. 122  
 Ozalid Co. Ltd. 36  
 Shackman, D., & Sons 46

### PNEUMATIC TUBE SYSTEMS

Lamson Engineering Co. Ltd. 152

### PRINTERS AND STATIONERS

Petty & Sons Ltd. 114

### PUNCHED CARD SYSTEMS

British Tabulating Machine Co. Ltd. 7  
 Copeland-Chatterton Co. 29  
 Powers-Samas Ltd. 17

### PRINTING MACHINES

Rotaprint Ltd. 148

### RIBBONS AND CARBONS

Richardson, W. J., & Sons 63

### ROTARY REPRODUCER

Rotaprint Ltd. 143

### SAFES

Remington-Rand Ltd. 5, 27, 161

Withers, Samuel, & Co. Ltd. 158

### SEATING

Abix Ltd. 134  
 Everaust Ltd. 42  
 Leabank Office Equipment Ltd. 129  
 Office Machinery Ltd. 160  
 Tan-Sad Chair Co. Ltd. 123

### MARKING EQUIPMENT

Cushman & Denison Ltd. 126

### MECHANICAL HANDLING

Lamson Engineering Co. 152

### STEEL STORAGE EQUIPMENT

Bawn, W. B., & Co. Ltd. 162  
 Brown, F. C. 163  
 Chevron Structural Units 44  
 Copeland-Chatterton Co. 29  
 Dexion Ltd. 24, 25  
 Everaust Ltd. 42  
 Gascoigne Co. Ltd. 23  
 Glover, J., & Sons Ltd. 164  
 Harvey, G. A., & Co. 150  
 Office Machinery Ltd. 160  
 Ronco Ltd. 123  
 Sankey-Sheldon Ltd. 31  
 Westwood, Jos., & Co. Ltd. 160

### STENCIL MACHINES

Diagraph Stencil Machine Co. Ltd. 147

### STOP WATCHES

Prestons Ltd. 164

### SYNTHETIC RUBBER

DuPont, E. I. de Nemours & Co. Inc. 11

### TARPAULINS

Lomas, S., & Co. Ltd. 165

### TELEPHONE AMPLIFIERS AND ACCESSORIES

Fonadec (Branson) Ltd. 40  
 Phonotek, The, Co. Ltd. 165

### TELEPHONES & SOUND EQUIPMENT

Dictograph Telephones 2  
 Edison Swan Electric Co. 155  
 Gent & Co. Ltd. 118  
 Interoffice Telephones Ltd. 124  
 Magneta Time Co. Ltd. 153  
 Reliance Telephone Co. 1  
 Shipston, E., & Co. Ltd. 16  
 Synchronome Co. Ltd. 151  
 Telephone Rentals Ltd. 70

### TICKET ISSUING MACHINES

I.B.M. United Kingdom 101

### TIME RECORDERS

Blick Time Recorders cover iii, 126

Dictograph Telephones 2

Gent & Co. Ltd. 118

Gledhill-Brook Ltd. 128

I.B.M. United Kingdom 101

Magneta Time Co. Ltd. 153

Servis Recorders Ltd. 127

Synchronome Co. Ltd. 151

Telephone Rentals Ltd. 70

### TYPEWRITERS AND ACCESSORIES

British Olivetti Ltd. 6  
 I.B.M. United Kingdom 101  
 Imperial Typewriter Co. 61  
 Lindication Ltd. 13  
 Office Equipment (B.T.L.) Ltd. 40, 127  
 Remington-Rand Ltd. 5, 27, 161  
 Smith-Corona (G.B.) Ltd. 128  
 Taylor's Typewriter Co. 38  
 Underwood Business Machines Ltd. 72  
 Van Der Velde Ltd. 28

### WASTEPAPER

Jacob, Alexander, & Co. Ltd. 125

### WATCHMEN'S CLOCKS

Blick Time Recorders cover iii, 126

Gent & Co. Ltd. 118

Synchronome Co. Ltd. 151

# RELEASED MANPOWER

*Can you fill your  
office vacancies this way?*

No matter how scarce good clerical staff may be they are still apt to be 'wasted'. Stop the waste and 'release manpower' from your own organisation for your ever increasing work demands.

Let us send you details of methods which will release manpower from your routine form work—be it on single labels or multiple sets such as Invoices, Purchase Orders, et cetera.

Quote Reference G.11—it is all you need do!

**EGRY LTD.**

St. George's House, 15 Hanover Sq.,  
LONDON, W.1 MAYFAIR 9622-3



## ADVERTISERS IN THIS ISSUE

For Classified Guide to Business and Industrial Equipment  
see page 166

## PITMAN

Abix (Metal Industries) Ltd.	134
Adam & Harvey Ltd.	164
Adapata Charts Ltd.	14
Adding Machine Exchange (London) Ltd.	165
Adding Machine Service Co.	165
Addressall Machine Co.	119
Addressing Machines Hayward Ltd.	144
Adrema Ltd.	129
Advance Linen Services Ltd.	130
Alara Ltd.	117
Amalgamated Business Machines Ltd.	165
Anderson Construction Co.	156
Anson, Geo., & Co. Ltd.	102
Art Metal Construction Co.	106
B.E.M. Ltd.	147
Bawn, W. B., & Co. Ltd.	162
Bemrose & Sons Ltd.	63
Bisset, K., & Co. Ltd.	161
Black Time Recorders Ltd.	126
Block & Anderson Ltd.	21
British Electrical Development Association	60
British European Airways	56
British Olivetti Ltd.	6
British Paints Ltd.	37
British Tabulating Machine Co. Ltd.	7
British Vacuum Cleaner and Eng. Co. Ltd.	153
Brown, F. C.	163
Brown & Brotherton	163
Brunsviga Sales Co. Ltd.	155
Bulmer's (Calculators) Ltd.	45
Burgess Products Co. Ltd.	4
Burroughs Adding Machine Co. Ltd.	64
C.W.S., Dudley	12
Calculating Services (B'ham)	165
Cementation (Muffelite) Ltd.	109
Chevron Structural Units	44
Conrad Press Ltd.	160
Coombs, H. A., Ltd.	158
Copeland-Chatterton Co.	29
Copperal Ltd.	33
Copycast (Associated) Marketing Ltd.	32
Creed & Co. Ltd.	154
Crypto Ltd.	135
Cushman & Denison Ltd.	126
Cuxson Gerrard & Co. Ltd.	133
Dacron Ltd.	145
Denby Moore & Co. Ltd.	164
Dexion Ltd.	24 & 25
Diagraph Stencil Machine Co.	147
Dictaphone Co. Ltd.	8 & 9
Dictograph Telephones Ltd.	2
Dimafon Ltd.	146
Dimplex Ltd.	46
Dubilier Condenser Co. (1925) Ltd.	120

Du Pont, E. I. de Nemours & Co. Inc.	11
Durham, H. H., Ltd.	165
E.M.I. Ltd.	66
Edison Swan Electric Co. Ltd.	155
Educational Supply Assoc.	139
Egry Ltd.	167
English Numbering Machines	125
Evertaut Ltd.	42
Expendex Visible Filing Co.	163
Famosa Calculating & Adding Machine Co. Ltd.	147
Fanfold Ltd.	140
Felt & Tarrant Ltd.	68
Financial Times	48
Fonandek (Branson) Ltd.	40
Freder Bros. Paper Mills	135
G.B. Equipments Ltd.	18, 62
Gascoigne Co. Ltd.	23
General Life Assurance Co.	23
Gent & Co. Ltd.	118
Gastetner Ltd.	35
Gladhill-Brook Time Recorders Ltd.	128
Glover, J., & Sons Ltd.	164
Gordon & Gotch Advtg. Ltd.	43
Goshon, John, & Co. Ltd.	62
Great Metropolitan Flooring Co. Ltd.	158
Handley, J. W., Pty. Ltd.	32
Harvey, G. A. (London) Ltd.	150
Haycraft, M. & L., Ltd.	14
Horton Manufacturing Co.	133
I.B.M. United Kingdom Ltd.	101
Ilford Ltd.	20
Imperial Typewriter Co. Ltd.	61
International Coin Counting Machine Co. Ltd.	10
Interoffice Telephones Ltd.	124
Jacob, Alexander, & Co. Ltd.	125
Johnson & Johnson (Gt. Britain) Ltd.	26
Johnson, S. C., & Son Ltd.	136
Jones, Percy (Twinlock) Ltd.	110
Kalamazoo Ltd.	30
Kodak Ltd.	122
Lamson Engineering Co. Ltd.	152
Lamson Parsons Ltd.	105
Leabank Office Equipment Ltd.	129
Lindication Ltd.	13
Logabax Ltd.	34
Lomas, S., & Co. (Tarpaulins)	165
Luminated Ceilings Ltd.	148
Magneta Time Co. Ltd.	153
Maple & Co. Ltd.	19
National Cash Register Co.	74
Noble Lowndes & Partners	52
Nu-Swift Ltd.	164

Office Equipment (B.T.L.) Ltd.	40, 127
Office Equipment Ltd.	157
Office Machinery Ltd.	160
Ozalid Co. Ltd.	36
P.S.A. Transport Ltd.	165
Park Lane House	162
Parring, John, Ltd.	145
Peter's Automatic Machines	135
Petty & Sons Ltd.	114
Philip's Electrical Ltd.	47
Phonatas Co. Ltd.	165
Pilkington Brothers Ltd.	22
Popes Electric Lamp Co. Ltd.	159
Power Jacks Ltd.	61
Powers-Samas Accounting Machines Ltd.	17
Prastons Ltd.	164
Ragna Cash Register Co.	164
Reliance Telephone Co. Ltd.	1
Remington-Rand Ltd.	5, 27, 161
Renfrew Foundries Ltd.	cover ii
Richardson, W. J., & Sons	63
Ronson Products Ltd.	151
Rosaprint Ltd.	143
Rubberware Ltd.	44
Sankey-Sheldon Ltd.	31
Seldex Ltd.	15
Servis Recorders Ltd.	127
Shackman, D., & Sons	46
Shannon Ltd.	143
Shell Chemicals Ltd.	39
Shipton, E., & Co. Ltd.	16
Sieber, James, Equip. Co.	164
Smith-Corona (Great Britain)	128
Smith, W. H., & Son Ltd.	147
Southalls (B'ham) Ltd.	133
Spiral Tube and Components	161
Sunlock Ltd.	113
Synchrone Co. Ltd.	151
T.S. (Office Equipment) Ltd.	142
Tan-Sad Chair Co. (1931) Ltd.	123
Taylor's Typewriter Co. Ltd.	38
Telegraph Condenser Co.	41
Telephone Rentals Ltd.	70
Tipdex Ltd.	139
Trade Loose Leaf Co. Ltd.	165
Underwood Business Machines Ltd.	72
Van Der Velde (Office Equipment) Ltd.	28
Vernon & Co. Ltd.	132
Vulcan Boiler and General Insurance Co. Ltd.	123
West, A., & Partners	128
Westwood, Joseph, & Co. Ltd.	160
Wheeler, H., & Co. Ltd.	160
Whitaker's Almanac	162
Withers, Samuel, & Co. Ltd.	158
Young, S. G.	165

### SPECIALISTS' GERMAN VOCABULARIES

By Kenneth Black

People in industry, commerce, trades and professions, will discover in this book many words and phrases that have yet to find their way into dictionaries. An invaluable reference work. 10s. 6d. net.

### HOW TO STUDY INSURANCE

By W. A. Dinsdale, Ph.D., etc.

A handy well-written little book which gives special guidance not only in the methods of acquisition of technical knowledge but also in the ways of displaying that knowledge to best advantage. 4s. 6d. net.

### A FIRST APPROACH TO ECONOMICS

By Professor E. Victor Morgan

This work is for first-year students of economics in universities and all who are beginning a serious study of the subject. It is based on a course which the author has been giving to his own first-year students and which is designed to take them to a point where they can enter the honours school. 20s. net.

### ECONOMICS OF INDUSTRIAL ORGANIZATION

By A. Becham, M.A., etc.

A new up-to-date third edition of this authoritative work which is designed to supplement the general economics textbook. The text has been revised wherever possible to take into account the more important changes that have taken place since the last edition was published. 16s. net.

PARKER STREET, KINGSWAY, LONDON, WC2



**Overalls FOR ALL TRADES & PURPOSES**

**The "VOLE" Brand**  
RIGMEL SHRUNK

Write for PRICES and PATTERNS

**H. WHEELER & COMPANY LTD.**

107 London Road, Plaistow, London, E.13

Phone: GRAngewood 4071 (5 lines)

- ★ BOILER SUITS
- ★ BIB & BRACE OVERALLS
- ★ APRONS, etc., for MEN & WOMEN
- ★ COATS, JACKETS



# TIME Recorders



## BLICK ELECTRIC MASTER CLOCK

For ensuring that all Clocks, Recorders, Bells, Hooters, etc., throughout the organisation keep synchronised and correct time.



## BLICK WALL CLOCKS

A wide range of models available.



## BLICK 'STANDARD'

The Blick wood-cased Pendulum Standard Card-system Recorder is still the most popular for smaller factories where no overlapping problem arises.



## BLICK PROGRAMME UNIT

For operating automatic Bells, Buzzers, Hooters, etc., to pre-determined time programmes.

## THE MOST IMPORTANT

The most important thing is to be quite sure you have the right kind of Time Recorder—one designed to suit your exact needs.

To do this, go to the people who have the widest range of models and who specialise in seeing that you install the model that will suit you best. A few are illustrated here.

If you ring Monarch 6256 and ask for Mr. Maurice High you can be sure not only of a courteous, friendly reception and expert advice, but you will also get the best equipment.



## BLICK MODEL 81

A one-hand operated, fully automatic "Punch-Hole" Time Recorder specially suitable for large factories and where the complication of overlapping shifts or meal-times arises.

**BLICK TIME RECORDERS LTD., 96 ALDERSGATE STREET, LONDON E.C.1**

PHONE MONARCH 6256

**TIME-SAVER**

**MONEY-SAVER**

**WORRY-SAVER**



# ALL THE ANSWERS ARE IN THE AGAVOX

Here is a straightforward business dictating machine with all the answers—the Agavox. A completely new machine, it offers greater opportunities for time-saving, both for the dictator and transcriber. It has every feature required for fast, effortless dictation. It provides the typist with every facility for speedy and error-free transcription.

The Agavox gets straight to the point—a foolproof, versatile machine which anyone can use with ease for dictation and transcription. Examine it for yourself; let your staff try it. The Agavox breaks new ground in both design and performance.

You are invited to see this machine without any obligation. Write or telephone for a demonstration. Ask for a copy of our new brochure which gives you the facts on the Agavox.

**M. & L. HAYCRAFT LTD.**

ST. STEPHEN HOUSE, WESTMINSTER,  
LONDON, S.W.1. Telephone WYndham 2687

NEWCASTLE CITY ARCADE, BIRMINGHAM 2. TELEPHONE CENTRAL 244  
GLASGOW 176 HOPE STREET, GLASGOW C.2. TELEPHONE DUNDEE 1704